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THE

EDINBURGH MEDICAL AND SURGICAL JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

MEDICINE, SURGERY, AND PHARMACY.

VOLUME TWENTY-FOURTH.

1825.

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The following Publications have been received—

The Works of Matthew Baillie, M. D.; to which is prefixed, An Account of his Life, collected from authentic sources. By James Wardrop, Surgeon Extraordinary to the King. 2 vols. 8vo. London, 1825. 25s.

Illustrations of the Arteries, connected with Aneurism, and Surgical Operations. By G. D. Dermott, M. R. C. S. No. 2. Containing Plates II., III., and IV. of a complete Series. Price 9s. 6d.

A Course of Dissections for the use of Students. By Herbert Mayo, Surgeon and Lecturer on Anatomy. 12mo. London, 1825. 7s. 6d.

The Syphonic Theory, or brief Observations on the Circulation of the Blood, and on Respiration as connected therewith. By Edward Hapley, Surgeon R. N. 8vo. London, 1825. 1s.

Elements of the Theory and Practice of Physic, designed for the use of Students. By George Gregory, M. D., Licentiate of the Royal College of Physicians in London. Second Edition, with Additions and Amendments. 8vo. London, 1825. 16s. boards.

Conversations on the Theory and Practice of Physiological Medicine; or, Dialogues between a Savant and a Young Physician, a Disciple of Professor Broussais; containing a concise Exposition of the New Medical Doctrine, and a Refutation of Objections brought forward against it. Translated from the French. 8vo. London, 1825. 9s. boards.

Military Medical Reports, containing Pathological and Practical Observations illustrating the Diseases of Warm Climates. By James M'Cabe, M. D. 8vo. Cheltenham, 1825.

An Inquiry into the Seat and Nature of Fever; as deducible from the Phenomena, Causes and Consequences of the Diseases, the effects of Remedies, and the appearances on Dissection. By Henry Clutterbuck, M. D., Member of the Royal College of Physicians of London, &c. Second Edition. 8vo. London, 1825. 12s.

Remarks on Irritative Fever, commonly called the Plymouth Dockyard Disease; with Mr Dryden's detailed account of the Fatal Cases, including that of the lamented Surgeon Dr Bell. By John Butter, M. D. F. R. S. F. L. S. & W. S. 8vo. Davenport, 1825. 12s.

Practical Remarks upon Indigestion, particularly as connected with Bilious and Nervous Affections of the Head and other parts; including Observations upon the Disorders and Diseases of the Stomach; and superior parts of the Alimentary Canal. By John Howship, Assistant Surgeon to the St George's Infirmary. 8vo. London, 1825.

An Introduction to the Use of the Stethoscope; with its application to the Diagnosis in Diseases of the Thoracic Viscera; including the Pathology of these various Affections. By William Stokes, M.D. 12mo. Edinburgh, 1825.

A Treatise on the Different Methods of Investigating the Diseases of the Chest, particulary Percussion and the Use of the Stethoscope. Translated from the French of M. Collin, with an additional Preface. By W. N. Ryland, M. D. 12mo. London, 1825. 2s. 6d.

An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs: with Remarks on the importance of attending to the State of the Urine in Organic Diseases of the Kidney and Bladder: and some Practical Rules for Determining the Nature of the Disease from the Sensible and Chemical Properties of that Secretion. By William Prout, MD. F.R.S. The Second Edition, Revised and much Enlarged. 8vo. London, 1825.

Practical Observations on Certain Pathological Relations which exist between the Kidneys and other Organs of the Human Body, especially the Brain, Mucous Membranes, and Liver. By John Fosbroke, Surgeon, Cheltenham. 8vo. Cheltenham, 1825. 6s.

A Treatise on Stricture of the Urethra; designed as a Manual for the Treatment of that Complaint, and addressed chiefly to Students and Junior Practitioners. By George Macilwain, Member of the Royal College of Surgeons of London. 8vo. London, 1824. 6s.

Thoughts on Vaccination, and the cause of its failing to afford the same protection against Variola as formerly. By John M'Ghie, Surgeon, Royal Navy, and Corresponding Member of the Chirurgical Society of Geneva. 8vo. Dumfries, 1825.

An Essay addressed to Captains of the Royal Navy, and those of the Merchants Service; on the Means of Preserving the Health of their Crews; with Directions for the Prevention of Dry Rot in Ships. By Robert Finlayson, M. D., Surgeon in the Royal Navy. 8vo. London, 1824.

Observations on Gout, Critical and Pathological; or an Analytical Survey of the Views at present entertained of the Nature of that Disorder, with Practical Remarks on the Injurious effects of Colchicum and on certain modes of Diet. By A. Rennies, Surgeon, &c. 8vo. London, 1825.

A List of Drugs and Chemicals, including the New Medicines, Horse and Cattle Medicines, Perfumery, and other articles generally sold by Chemists and Druggists, arranged Alphabetically under their English names, with the Latin Synonymes in general use, and also the altered names in the New Pharmacopoeia; to which are added the Doses intended as a Price Book. 12mo. London, 1825. 2s. 6d.

The Midico-Chirurgical Review (Quarterly) conducted by Associated Physicians and Surgeons, and superintended by James Johnston, M.D., &c. &c. No. V. New Series, pp. 316. July 1825.

De l'Influence du Système Nerveux sur la Digestion Stomacale, par M.M. Breschet D. M. P. &c.; H. Milne Edwards, D. M. P. et Vavasseur, D. M. P. August 1823.

Memoire sur la Mode d'Action des Nerfs Pneumogastriques dans la production des Phenomenes de la Digestion. Par MM. Breschet, et H. Milne Edwards. Lu à la Société Philomatique. Febrier, 1825.

Lezioni di Materia Medica del Dottor Ottaviano Targioni Tozzetti Professore di Botanica e Materia Medica. 8vo. Firenze, 1821.

Compte Rendu des Travaux de la Societé de Medecine de Lyon. Par G. Montain, D. M. P. &c. &c. &c. 8vo. A Lyon, 1824.

Journal der Practischen Heilkunde herausgegeben von C. W. Hufeland und E. Osann. November 1824, and Supplement Band.

Magazin der ausländischen Literatur der gesammten Heilkunde und Arbeiten des Aerztlichen Vereins zu Hamburgh herausgegeben von D. G. H. Gerson, und Dr Nikol. Heinr. Julius, 8 vols. 8vo. Hamburgh 1821—1824.

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ERRATA.

In the 8th line from the title of Dr Cumin's Observations on the Treatment of Ganglion, inserted in our last Number, No. 18, p. 95, ganglions are said to be usually seated "*in tendons,*" instead of "*over tendons.*" Dr Cumin adds, that, though he never has had opportunity of dissecting a ganglion, from careful examination, and the statements of authors, he is convinced that ganglion is rarely formed by a distinct cyst, but usually originates from the effusion of fluid between the laminæ of the sheaths of tendons. We have the satisfaction to add, that Dr Cumin's practice has completely succeeded in the case of a young lady in this city.

p. 355, line 21, for fluid, *read* florid.
p. 356, — 6, for her, *read* that.
p. 357, — 4, for nervous, *read* noxious.
p. 358, — 6 from foot, *for* for, *read* from.
p. 359, — 3, for on, *read* in.
p. 359, — 19, for Enteric, *read* Enteria.
p. 359, — 25, for dysentry, *read* dysentery.
p. 360, — 6, for merely, *read* ninety.
p. 360, — 9, for dysentry, *read* dysentery.
p. 363, — 42, for fœtus, *read* the fœtus.
p. 366, — 10, for proper, *read* profuse.
p. 367, — 25, for muscle *read* muscles.

THE

EDINBURGH
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1. JULY, 1825.

PART I.

ORIGINAL COMMUNICATIONS.

I.

On the Pathology and Treatment of Headach. By J. L. MORGAN, M. D.

In treating on the subject of Headachs, various distributions of it have been made by different authors; and headachs have been classed, in the order of continual, periodical, universal, partial, rheumatic, gouty, and many others. But decided objections (it appears to me) present themselves to such an arrangement of the subject; these, however, I need not particularize. I propose therefore to attempt the investigation of its pathology in the following order, viz. Of headachs which are dependent on *plethora*, and *derangement in the vascular system*—Of those which are dependent on *organic disease*,—Of those which arise from morbid *sympathies*.

I. OF THOSE HEADACHS WHICH DEPEND ON PLETHORA AND DERANGEMENT IN THE VASCULAR SYSTEM.

All medical practitioners whose attention has been particularly directed to the diseases of the head, will have observed, that a very large proportion is dependent on some derangement in the vascular system, arising especially from a plethora of blood. In many of these cases, the plethora is not partial, and confined to the head, but is a morbid condition, which manifests itself over the whole vascular system, and commonly stands connected with an active state of the vessels, indicated by a full and strong pulse, with a florid complexion, and usually occurs in persons of sanguine temperaments, or *bon vivants*, whose stomachs constitute the all predominant organs of their system.

Besides this class, whom nature, constitution, and still more fatal habits, have predisposed to this source of the disease, there is to be met with a number of individuals, suffering from frequent headach, attended by a throbbing of the carotids, with other evident marks of plethora in the head, in whom the plethora is *strictly local.* In such cases the disease is not only unaccompanied by fulness in the general system, but is often characterized by a marked *deficiency* of blood in other parts of the system. This species of the disease is frequently to be met with amongst persons in the higher ranks of life, men of literary habits, delicate females; and may explain why general blood-letting, so often resorted to, does not in these cases afford relief, and why it so often aggravates the disease. The depletion, by debilitating the heart and arteries, occasions a more feeble action of those parts, and consequently a slower and more languid circulation in the general system, and an *increased venous congestion* in the brain. The derangement produced thereby, in some instances, becomes so great, as to bring on, in addition to the headach, a slight degree of torpor, or even convulsion, in consequence of an undue proportion of blood being accumulated in the brain, and consequently causing a disturbance of the equilibrium of the circulation throughout the general system. This may frequently be observed in persons labouring under diseases of the heart. It is a curious fact, as Dr Parry of Bath has remarked, of which it is imposssible to offer an explanation—that during a palpitation of the heart, while an unusual quantity of blood is passed through that organ in a certain time, and from which we should naturally infer that an unusual quantity would be found circulating through the general system—we find that the excess of blood is mainly diverted to the ascending aorta, carotids, and arteries of the head, while the branches of the *aorta descendens* are often robbed of their blood, and the lower extremities are therefore shrunk and cold, while the pulsations of the carotids are unnaturally strong. And he adds, " and even some of the branches of the *aorta ascendens* itself, are reduced to the same state, and the hands are sometimes cold, and the pulse weak and small." * This fact should make us more particular in our investigation of the condition of other arteries, besides that at the wrist, but particularly of the carotids, not forgetting the pulsation at the heart in all affections of the head; for palpitations, especially those occassioned by aneurisms, or ossification of the heart or great arteries, have great influence in producing intense headachs, and even apoplexy itself, in consequence of the congestion and disordered circulation of blood in the vessels of the head, and have justly been considered as one of the great causes of vascular fulness in the brain. *

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* See Memoirs of the Med. Soc. Vol VI.

That a plethoric condition of the vessels of the brain does exist and give occasion to the headach, the occasionally large and sudden effusions of blood from the nose, followed by the removal of the disease, satisfactorily proves. Cowper, in his anatomical work, has related the case of a man, who had from an early age suffered from intense headachs, which manifestly appear to have arisen from distension of vessels, in consequence of a constant fulnesss of blood in the head. On dissection of the head, the arteries of the dura mater were found as large as a goose-quill, and had continued long of this size, as the corresponding indentation on the skull proved. A similar case of enlargement of vessels is given by Morgagni from the "Commercium Literarium."—"A woman had been subject to great pains in her head, from her youth; and these were always increased, in proportion to the increased quantity or rarefaction of the blood. For, in her, the right kidney being out of its proper situation, had so compressed the aorta and vena cava against the lower vertebræ of the loins, that where this vein received the blood of the left iliac, a varix was formed, exceeding the diameter of the cava in almost a double proportion; and hence, in proportion as the blood was impeded in its free course to the lower extremities, the greater quantity must have been consequently diverted to the upper parts of the body."—"These facts," adds Morgagni, "sufficiently prove, that the quantity of blood with which the vessels of the *meninges*, and the minute vessels of the brain were distended, so as to enlarge their calibre, was sufficient to account for the severe pains of the head with which the woman had been affected."[*] The headachs produced by congestion, or venous plethora in the head (unconnected with any active state of the vessels), constitute what the ancients termed a *remora*. The pain is to be attributed, in these cases, to the great distension of the parts. (The headach occasioned by this partial stagnation of the blood, is the leading morbid symptom at the onset of the severer forms of fevers; of this, the congestive typhus, and the malignant scarlatina, are eminent examples.)

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* A very interesting case has been communicated by Professor Lallemand, in his late work on the brain, illustrative of this point.

Severe and continued headach has been a marked symptom in all the cases of organic disease of the heart, which have come under my notice, and was evidently dependent on the morbid actions of that viscus for its origin and continuance. Besides, indolence, habits of gluttony and intemperance, and organic disease of the heart and great vessels; other sources of this disease remain to be mentioned: among these, long continued severe study, watching, strong passions of the mind, and from allowing the hair to grow to a great length, and the stopping of accustomed evacuations from ulcers, issues, setons, the menstrual discharge, or from hemorrhages (as the piles, or bleeding at the nose), produce a like effect, viz. accumulation of blood in the head. Van Sweiten remarks, "Qui narium profusæ hemorrhagiæ obnoxii vivunt, si illa imprudenti consilio cohibeatur, tunc quandoque in cerebro solvitur arteria. Illustrissima domina omni ope jam erumpere gestientem de naribus sanguinem impediebat, verum sequenti die *subito immani dolore capitis correpta fuit* et intra semihoram periit; post mortem in ipsa cerebri substantia inventus fuit concreti sanguinis grumus uncia cun dimidia circiter ponderans."—APHOR. 1010.

The idea of headach arising from the distension of the vessels and fibres of the membranes, has long been entertained by Bonetus[†] and Morgagni.[‡] "It is easy," says the latter, "to imagine that the blood, either by its plenty or by its turgescency, or by its motion being accelerated through the head, puts a force upon vessels going to this part (the dura mater), and must *distend* the fibres which surround the vessels of the dura mater:" and he further adds, "it is probable that obstacles to the circulation of the blood, or other juices, through the meninges, may sometimes give occasion to pains of the head, which return periodically, as often as a sufficient portion of fluids is obstructed to cause a distension by its weight; and this obstruction will continue till the fluids, being vitiated thereby, shall irritate the meninges, and bring on a contraction of their fibres: to this others succeed; nor is there an end of the disorder till the lateral canals are (by these repeated impulses) so far dilated that they no longer resist the circulation of the juices."

Great diversity of opinion has obtained as to the causes of hemicrania, some authors regarding it as a rheumatic, and others as an intermitting febrile affection. Whatever be the nosological nook that may be assigned it, it matters little; the disease remains essentially the same; and, regarding it as I do, I shall place it amongst the first class of headachs, which consist essentially in a disordered state of the circulation. The cases reported by Willis and Morgagni strongly favour this idea.[||]

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[*] Morgagni on Seats and Causes, Vol. i. Epist. 1.

[†] *Vide* Sepulchretum.

[‡] *Vide* Epist. de Causis et Sed. Morb.

[||] "Vir egregius circa initium ægritudinis suæ atroci Capitis Dolore *juxta latus sinistrum* torquebatur; cujus causa nescio, an probabilior assignari possit quam quod sanguis carotide dextra exclusus, cum primo in sinistram impetuosius irrueret membranam distenderat; ideoque idem affectus postea sponte evanuit nimirum sanguine superfluo per arteriam vertebralem derivato." On the death of this individual, the body was opened. The following appearances in the brain were found—"*carotidem dextram* intra cranium emergentem *plane osseam* seu potius *lapideam* cavitate ejus fere *in totum* occlusa invenimus. Ex eodem latere quo carotis defecerat, *Arteria vertebralis* tubuli mole aucta pari suæ alterius lateris *triplo major evaserat:* Sanguis Carotide Dextro exclusus vertebralis solito vectigali sese insuper addens, et duplicato fluvio in eundem alveum confluens, arteriæ istius canalem ita supra modum dilateravit."—*Cerebri Anatome, Cap. vii.*

"Laurence Baggatrine, who had been seized, not long before, with an external, but violent hemicrania, which returned daily at the eleventh hour. Whatever I did, had either no effect at all, or at least only that of shortening and alleviating it, for it still returned at the same hour; and if any little error or irregularity were committed, it returned with its former violence. Having for many days used all other remedies in vain, I at length got the better of the disorder, by means of a slight decoction of the woods, which threw the patient into sweats, and relieved him of his disorder. In this case there was something hereditary; for his mother, who was seventy years of age, had been seized a little before with so great a pain in her head, that she lost the sight of one eye; yet she was still afflicted with violent pains, which recurred periodically: But as these pains did not always begin in the same place, but sometimes at the vertex, and at others within the nose (so that snuffing up warm milk was of service), and did not return at the same hour, I found it more easy to remove the pains of the mother than that of the son; and being cured of her pain, the sight of her eye was by degrees restored. Among other things, bleeding was of service to her; but not so much what was performed by my order, as what she performed for herself, by untying the bandage from her arm in her sleep, by which she lost a considerable quantity." The last circumstance strongly favours the opinion, that periodical as well as rheumatic headachs arise from fulness, connected also with vascular activity. I had, a short time since, a lady under my care, whose case bears a strict resemblance to this, which I have given from Morgagni, where blood-letting was as freely used, and rather more so, together with active purgation, and blisters repeated three or four times, and every time with increasing relief to the hemicrania. These facts satisfy me that the proximate cause of the disease is to be found in a disordered circulation in the head. To this head must also be referred those headachs which come on upon slight occasions, such as sitting in a warm room, exposure to the sun, warm weather, drinking stimulating liquors, quick exercise, leaning the head downwards, and the like; they are all dependent on vascular derangement, and, I suspect, most commonly in the membranes. Dissections favour this idea; for, in those cases where the substance of the brain is affected, paralytic and apoplectic symptoms usually manifest themselves.

All headachs unconnected with primary visceral derangement, which continue for any time, should be regarded with suspicion, as the probable precursors of inflammation, apoplexy, mania, or some organic disease; and treated with those decisive measures which alone promise success or security.

II. OF THOSE *HEADACHS* WHICH ARE DEPENDENT ON ORGANIC DISEASE;—IN THE INTEGUMENTS OF THE HEAD—IN THE SKULL—IN THE MEMBRANES—AND IN THE BRAIN ITSELF.

In the Integuments.

The integuments of the head in persons subject to frequent and severe headachs, are often affected with extreme tenderness, which will continue for a time, so that the pressure of the hand, or the combing of the hair can scarcely be borne. This tenderness of the scalp is occasionally extended over the whole of its surface, but most commonly it is confined to some particular spot; the pain and tenderness are then much more acute and permanent, accompanied by some of the ordinary symptoms of local inflammation, tumefaction, heat, &c. The intense headache which is always present constitutes the leading symptom, although from its severity and continuance, delirium and other morbid symptoms are sometimes produced—as this affection most commonly arises from sudden exposure of the head to cold when sweating, or to some blow, fall, or other violence (received probably at some distance of time, so as perhaps to be almost forgotten, from having occasioned little disorder at the time.) It will be found generally accompanied with disease in the Pericranium, one of a class of membranes in which inflammation is slow in making its approaches, but where having once gained a footing, it obstinately persists in retaining it; and from which I believe it will be found never to depart, without producing considerable disorganization of the structure—either thickening tumours or effusion of pus. The following case from Morgagni illustrates this point. "A man who had been troubled with violent pains in his head which were almost constant, added to which, was an almost continual defluxion of serum from his eyes, having drunk too freely of wine, was soon after attacked with pain and vomitings. However, he got rid of both these complaints by an unction which an empiric had ordered to be applied to his belly; but he was immediately seized with a vehement heat in his head, both internally and externally; and the same unction being applied to his head, it was attacked with the most violent pain, accompanied with a delirium and convulsive motions, which ceasing in about an hour after, he died apoplectic. The face of the carcass was pale, and the limbs contracted. The pericranium about the sinciput was found much thickened, by stagnating juices which were concreted into the form of a jelly."* Mr

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* Morgagni Lett. I. Alexander's Trans.

Crampton, in an article on Periostosis, in the first volume of the Dublin Hospital Reports, details an interesting case of disease in the integuments, accompanied with intense headach, chiefly confined to one side of the head. The subject of this affection was a woman of about thirty years of age. She had a tumour about the size of a walnut, situated on the left parietal bone, which, on examination, was rather soft, and had a small opening in it; on examining the tumour after it had been divided down to the skull, it was found to be formed of thickened pericranium, which appeared solid and peculiarly tender to the touch. The skull immediately under the tumour was partly carious, and was therefore removed by the trephine. She was free from complaint in the course of a fortnight after the operation had been performed. Other cases are related by authors, of a similar nature, by Morgagni, Valsalva, Sir E. Home and others.

In the Skull, likewise, sources of severe and obstinate headachs exist—viz. common and specific Inflammation—Caries—Exostoses. Common inflammation is produced in the skull, in consequence of some external injury. Unconnected with disease of the membranes which line its external surface, it rarely proves a source of disorder to other parts; but connected with disease in these parts, it not unfrequently becomes severe and obstinate, and terminates in exfoliation or caries, occasioning constant and intolerable headach. Indeed, if we consider the intimate connexion subsisting between the membrane and the bones, the blood-vessels, and probably nerves passing freely from the pericranium to the bones, we shall probably come to the conclusion, that active disease rarely exists in the bone without affection of the membrane, although the converse of this proposition may be true, viz. that disease does exist in the pericranium, unconnected with corresponding disease of the bone.

But when inflammation occurs in the bones of the head, unless as a consequence of violence, it most usually makes its appearance under a specific form, arising from scrofulous or venereal virus. The headachs which this latter occasions are very wearying, particularly during the night-time, when the sufferings of the patient are considerable. Scrofulous disease is not confined to any particular bone of the head; but when the venereal disease affects the bones of the cranium, the frontal bone is commonly that first affected. The inflammation excited by these several causes produces exfoliation, caries, exostoses and tophi, gummi and nodes.—all which are sources of distressing headachs, either by pressing against or irritating the pericranium when extending outwardly, and the dura mater when extending inwardly, which are consequently irritated from the resistance they oppose to this distension being inelastic fibrous membranes. A case of intense irregularly supervening headach, in consequence of a caries in one of he bones of the skull is detailed by Dr Henry of Manchiester. " Mr N—— S—— came to me on the 20th of July, to inform me of an uncommon pain in his head, which attacked him every night as he lay down in bed, and sometimes infested him in the day-time, at irregular hours.—His description was as follows: ' At its first coming on, it fixed in so small a space, that he could cover it with the end of his finger; the seat of it was in the lower part of the coronal suture, an inch above the *os sphenoides*; and he showed me a vacuity or chasm about an inch long, and one sixth of an inch broad, in the course of the suture, which he seemed certain was not preexistent to his headach: while the pain, which was extremely acute and lancinating remained, the part was puffed up like an inflated bladder, for the space of a half-crown piece, the temporal artery appeared tense like a distended cord; from hence it removed to the *processus condyloides*, and while it remained there, occasioned a convulsive motion of the lower jaw; it then changed its situation to an inch and a half below the angle of that bone, and after some continuance at that point, he became suddenly and entirely easy. He had laboured under these complaints during three weeks. On the 31st of July he called on me again, and gave the following account. That his breath had had an unusually disagreeable earthy smell, which commenced some days after the pain in his head first began; and that, as he was sitting quietly, without retching or coughing, he was suddenly in danger of suffocation by something falling into the œsophagus, where it stuck. With an effort he spat up a solid angular substance, of the size of the end of his thumb, and consisting of a mixed hard brown and white matter, which, on being pressed, fell into a dry powder. He had felt no pain before this happened, nor had it returned since that time. On examining the seeming deficiency in the suture, he complained of intolerable uneasiness from the pressure of my finger, which seemed to him to affect the internal parts of his head. On the 8th of August he had slight returns of the pain in his head, which lasted about two minutes; he then perceived something to fall into his throat, which he soon discharged, and proved to be of a similar nature to the former; his pain instantly ceased; but a numbness continued in the side of his head and face for several hours before and after the evacuation. The vacuity in the cranium diminished after this, and he could bear the integuments to be pressed on. He recovered after this; but in January following he was attacked with cough, and convulsive spasms in the head and neck; and, after lingering in this miserable situation sixteen months, he died." The following case of excruciating headach, from caries of the bones of the skull, in consequence of a fall, is from Morgagni. " A woman falling backward upon stone stairs, received a violent blow upon the hinder part of the head; but, besides a short and slight stupor, which did not prevent her from returning home by herself, and a slight blackness in the contused part, which soon disappeared, she seemed to suffer no inconvenience from her fall at that time. After some months, a tumour not bigger than a filbert appeared in the part of her head where she had received the blow; but this tumour giving no pain, was neglected; it grew gradually larger, till, at the expiration of the third year, it became very large; when it was mistaken for a subcutaneous tumour, as it had neither changed the colour of the skin, nor given any pain when pressed on. Soon after this the patient began to have excruciating pains, which, beginning from the seat of the tumour, were so extended through almost the whole cranium, that her head seemed to her to be bound hard with cords. These pains were not continual, nor always equally violent, yet sometimes were so severe as to induce slight delirium; and the longer they continued, the more frequent and violent they became. In this manner she went on to the *sixth year*, when an apoplexy came on, and occasioned the death of the woman. On opening the tumour, its cavity was found almost full of blood, and not only concreted, but so dense, that, being laid hold of by the fingers, the whole followed, some portion of fluid blood following at last. This disease, when the integuments were taken off, was found to commence from the part which had been formerly struck, that is, from the upper part of the *os occipitis* on the left side, at the distance of three inches from the coronal suture. It occupied, moreover, a part of the right sinciput, so that the whole of the caries extended itself six inches in breadth, and more than seven in length. Where the bones were not entirely pierced through, the substance of the bone appeared reticular; and from the external surface of this reticular substance, bony lamellæ were raised up here and there, most of them being thin like paper, but all hard and pointed; and hereby was formed a beautiful appearance, as they resembled a kind of foliated funguses of different sizes, which had arisen by a sort of bony vegetation. The dura mater was become very thick in the whole of that space where it lay beneath the diseased cranium, and adhered more closely than usual to the part of it which had received the blow; the blood-vessels were larger and more turgid in the membrane on the sound side of the skull, than on the affected side. The vessels forming the *plexus choroides,* were much distended with blood, and serum was found effused under the basis of the cerebrum; the last appearances accounted for the apoplexia." * The following case, communicated by Professor Sporing of Sweden, in the Stockholm Transactions, is another instance of intense headach, arising from disease of the bones of the head, which had tortured the patient for 14 years. It was an osseous excrescence, which spontaneously sloughed off, followed by the removal of the headach, and other symptoms. "Olof Laitin, a peasant in the lordship of Neuschloss, born of healthy parents, and himself of a robust constitution, was in the thirty-fifth year of his age seized with *violent pains in his head,* accompanied with inexpressible heat, shootings, and irritation, chiefly over his eyebrows. At the end of a month, there suddenly appeared, betwixt the nose and right eye, a hard nodus, of the size of a small bean, with an aqueous fluid issuing copiously from that eye. This osseous excrescence afterwards grew (the headachs and discharge at the eye continuing) to the size of half a walnut. During its growth, the eyeball was insensibly forced from its natural position, so that at length it came to project at the opposite corner of the eye, and was a disfigurement not to be viewed without disgust; the tubercle, in the mean time, was surrounded with a pus continually dripping at his right nostril. As the excrescence enlarged, the sight of the eye grew weaker, till it was nearly extinct. A camp-surgeon in the neighbourhood was for taking out the bone by an operation; but the wound began to bleed extremely, and the patient fainting under the severity of the operation, it was judged advisable to desist. A corrosive substance was applied by a quack in December 1736, and again in the spring of 1737, with extreme pain. In 1738, March, this osseous congeries dropped off of itself, the pains of the head ceased immediately, the eye mended daily, and gradually returned to its socket."

In the Membranes.

"Certe non immerito," says Willis, in allusion to the membranes of the brain, "quod acutiori hujus sensu immanes cephalalgias ascribimus;" and when the headachs have arisen from disease within the cranium, and have been of long duration, and of great severity, the dura and pia mater and arachnoid membrane are found generally to exhibit more or less of morbid alteration in structure; and on dissection, evident traces appear of previous inflammatory action, and its several sequelæ of thickening tumours, adhesions, effusion, enlargement of the blood-vessels, masses of bony matter, diseases of the *glandulæ Pacchioni*, obstructions in the sinusses. These several morbid changes, induced by inflammation, by presenting obstruction to the free circulation of the blood, and otherwise disturbing its functions, will occasion an accumulation of blood, and a consequent fulness and distension of the membranes, and increased pulsation of the arteries, sufficiently to account for the pains in the head. Indeed whatever irritates these membranes, whether it be an eroding pus from a caries, or a sharp spicula of bone, or vascular distension, produces pain in the head. Bonetus has long since ascribed headachs to the consequences of inflammation in the membranes; and in the sepulchetum, remarks, that individuals in whom the membranes had been united for some considerable space, and in whom consequently, the orifices of the vessels were completely closed, were subject to the most dreadful headachs; and Morgagni has laid it down as a pathological point, of which he felt fully satisfied, that induration and thickening of the dura mater, with adhesions between it and the skull, by the obstacles this presented to the free circulation of the fluids, were amply sufficient to account for the most afflicting headachs. * The following cases will be found to corroborate that opinion.

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* Letter 53d, Morgagni. Alexander. Transl.

A beggar man, who had long suffered from pains in his head and obstructions in the belly, on being brought into the anatomical theatre, his body much emaciated, exhibited no signs of disorder in the belly or chest, except an obstruction of the spleen; but when the skull was sawn through, and the upper part taken off, it was observed that the dura mater was firmly attached to it on the left side of the forehead, and there, for some space, this meninx was not membranous, but degenerated into a middle state between a bone and a ligament, forming the figure of an ellipse. Though the cerebellum was soft and flaccid, and the *medulla oblongata* not very firm, yet the cerebrum I found to be hard, as is frequently the case in idiots. There was a little turbid fluid in the lateral ventricles, with colourless plexuses, on the posterior part of which a few vesicles appeared filled with the same fluid. Morgagni adds, the morbid appearances found in the dura mater were alone connected with the pain in the head. Brunnerus [*] has related the case of a man who had suffered intense headachs, in whom, on dissection, the dura mater was found to contain a great number of small tumours of the size of a pea; other tumours of a venereal kind have been observed in the dura mater. Morgagni tells us, that Rhodius saw, on opening the skull, *three white gummata* adhering to the dura mater, in a venereal patient who had suffered from headach. [†] Ossification, which is sometimes extensive in the dura mater, particularly in that part of it which forms the falx, creates another source of obstruction and distension, and consequently of headach; indeed, it is said to have been found entirely composed of bone.

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* Willis observes, " Defunctorum capita, qui dum in vivis agerent, cephalalgiæ miserrimæ erant obnoxii, aliquoties aperui: in quibus *juxta sinum longitudinalem* ubi dolorum sedes erat, pia ac interior meninx duræ ac exteriori per aliquod spatium sæpe *duos digitos latum accrescebat* et coalitione sua tumorem asperum et inequalem excitaverat, in quo *vasorum oscula* ita penitus obserabantur, ut sanguini licet plurimum ebullienti in sinum propinquum nullus aditus relinqueretur. "—*Cerebri. Anat.* cap. ix.

Morgagni gives an account of one he had met with in his dissections (Epist. 3. Art. 20), of three inches in length, and an inch and a half in breadth.

Borelli has likewise observed, that bones which irritate and prick the meninges, having sharp points, have been found in the dura mater, and that such patients had long suffered pains of the head. [‡] Besides, however, the several morbid changes in structure in the membranes—of enlargement of its blood-vessels—thickening—adhesion—fleshy and bony tumours—and ossifications—there are those which arise from effusions of fluid upon the dura mater, between it and the pia mater, and between it, the arachnoid membrane, and the brain. These fluids appear to give rise to headach in different ways; sometimes they are found to erode the membranes (such as pus and fluids infected with venereal virus); in others, only to distend, compress, and thereby irritate them.

In the Brain itself.—While this viscus is unquestionably in the majority of cases of headachs, to be regarded simply as the part where a secondary or symptomatic effect (the consequence of distant irritations), is manifested; it is likewise in some cases the primary seat of the affection. It may, I think, be observed, that in a very great number of the histories of cases of structural disease of the brain, that patients had complained of pains in the head, varying indeed in character, some acute, continued, and lancinating, with increased sensibility of the retina, with rather an increased flow of spirits; others dull, wandering, or fixed, attended with irritability, depression of mind, and drowsiness; but however the character of the pain may differ, headach is one of the most constant, precursory, as well as present, symptoms of organic disease in the brain. It is generally, I might almost say invariably, greatest at the commencement of the affection, and gradually declines in severity as the morbid changes make progress in the brain, when it is followed by symptoms of a convulsive or lethargic nature very commonly. The morbid conditions in which dissection has exhibited this delicate organ, in connexion with headach, are vascular enlargement, chronic inflammation, and its sequelæ, abscess, induration, tumours.

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[*] Eph. N. C. Cent. I. Obs. 69.

[†] Willis details the case of a woman, aged 50, who had for six months suffered *intense headach*, under the line of the sagittal suture, which at last degenerated into a lethargy, in which state she died. I give the dissection in his own words:—"Cranio aperto e latere sinus tertii *tumor schirrhosus* tres digitos latus membranis accreverat, cujus interventu, et dura meninx aliquanto spatio *piæ* accreverat, et vasa sanguifera quæ illic in sinus cavitatem dehiscere debuerunt constipabantur."—Willis de Anim. Brutor. P. II. Cap. 2.

[‡] Vide Hist. et Obs. Med. Phys. Cent. 4. Obs. 99. "Bina ossa inventa fuerunt (says Van Sweiten, quoting from the Hist. de l'Acad. des Sciences, 1713), in juvene novemdecem annorum ad latus dextrum sinus longitudinalis, quatuor et ultra lineas diametro æquantia aculeis hirta acutissimis qui perforabant duram matrem *et cephalæam molestam produxerant dum vivebat.*" Aphor. 1010.

In a case of a woman who had been afflicted with constant severe pains of the head, and occasional delirium, of which maladies she died, Morgagni informs us, that on opening the head, adhesions were found to have taken place between the surface of the brain and membranes; and that on attempting to separate them, a portion of the brain followed,—and that *through the medullary substance* of the brain the sanguiferous vessels appeared very numerous, and unusually distinct. Histories of partial induration of the brain, or of hardness extending through the whole brain, when the patients had suffered from headach, are to be met with in the History of the Royal Academy of Sciences at Paris (1705, Obs. Anat. I.) Schenkius relates that a stony tumour, of the form a mullberry, was found in the brain of a man, who had suffered from intense and long continued headachs, which allowed him no interval of repose. Morgagni also relates a case of the unnatural hardening of the whole of the *cerebrum*. Pacchioni (Epist. ad Scrok.), has observed the cortical portion of the cerebrum unusually hard, so as even to resist pressure; and Kaavius had observed, that it was not only hardened, but in many places schirrous and even cartilaginous. Morgagni likewise met with an instance in a man who had been afflicted with an obstinate *cephalœa* in the crown of his head, and with epileptic attacks, who was not observed to talk incoherently, till within the last months of his life, and then only, when *the pain in the head was violent*. On dissection of his brain, a tumour bigger than a walnut, was found attached to the corpus callosum.

A. S. C. æt 35, of infirm health, and had long suffered from scrofula, lues, and scurvy.—He died of phthisis. But what was chiefly remarkable in this case, says Dr F. Merat, was the *violent pain of his head*, of which for days he had complained, and which continued unabated till death, in defiance of every remedy employed. Towards the conclusion of life, it became so intolerable, that he was obliged to remain motionless in bed, the slightest motion aggravating the headach to perfect torture. On dissection, the whole body appeared greatly emaciated and covered with cicatrices of scorfulous and other sores. Brain soft. The lateral ventricles contained ℥iij colourless serum—none at the base of the cranium. At the superior middle part of the right hemisphere, was found a *pretty firm tumour*, size of a pigeon's egg. It had a fine reddish coat. Its inside contained a yellowish substance of a cerebral colour, distinctly organized. In the anterior part of the left lobe of the cerebellum was found a similar *tumour twice as large*.—(See Journal de Medecin. vol. x.; also Edin. Med. Jour. vol. vi. 407.)

"A man cook, about 48 years of age, who had been accustomed to stand very near to charcoal fires with his head over them, began to complain of *very acute pains in that part, a year before*. To these pains was afterwards joined a debility in both limbs, which, joined to a slight fever, confined him to his bed. He now and then laboured under a slight delirium. On being bled, this disease was removed; but the other symptoms remained, for which cephalic remedies were prescribed without any benefit. After four months he died, without any previous symptoms of approaching dissolution. When the skull was cut off and opened, a quantity of water had flowed out. On cutting into the brain, the cavity was observed to be oblique. The vessels which creep through the meninges, and through the parietes of the lateral ventricles, had a greater quantity of blood than they naturally have, and the bloody points in the medullary subsance of the cerebrum were unusually conspicuous. In the three anterior ventricles there was a great quantity of limpid water in which the alæ of the plexus choroides floated, but were not of a pale colour. The pineal gland was distended with the same water, and easily ruptured by raising up the middle part of the plexuses. In dividing the cerebellum, I cut down to the fourth ventricle, and began to see that disorder on account of which I chiefly describe this observation. It was a substance not soft, nor of two colours, nor cut betwixt with deep sulci, *but a schirrous substance of a pale flesh colour*, being made up of roundish corpuscles, so compacted one with another, that there nowhere occurred any interstice, no membrane, no blood-vessels. A disorder of this kind extended itself on the right and left lobes of the cerebellum. The lower part of it was closely connected with the dura mater, where Morgagni supposes it to have commenced, and to have extended thence upwards." *

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* Epist. 62, Art. 15.

Guannoni asserts likewise, that he met with tumours in persons suffering from *venereal* headachs, not only connecting with, and originating in the dura mater, but likewise in the substance of the brain itself. (In Schol. Ult. ad additam.) Three small bodies resembling gummata, are said to have been seen in the brain of a man who had had the lues venerea; he was likewise subject to epilepsy as well as these headachs. The last of the morbid states of the brain, in connexion with pains in the head, is that of effusion of serum and pus. Of the former, numerous examples might be adduced, but it would be tedious. I shall therefore restrict myself to a few of the more marked cases on record. Borelli informs us, that in a girl who had long been troubled with a violent pain in the crown of her head, he observed an abscess of limpid fluid, containing to the extent of two pints, lying upon the *nates cerebri* and *infundibulum.* It likewise happened to Behrinsius and Preussius while dissecting a brain with this disease, that scarcely had the knife reached the lateral ventricles, but the fluid rushed forth with considerable impetus. Such was the distension suffered by the brain and membranes, that, as Morgagni justly observes, it is not to be wondered at, that the pains of the head were so vehement, that one of the patients became almost mad with miserable howlings, and that the other, seized with a fury, plunged headlong into a well.[*]

There is an observation ascribed to Wepfer relating to a countryman, who, being impatient of a long and very violent pain in his head, from a serous fluid contained therein, compelled a farrier to pierce him on the side of his head, from which, a great quantity of serum being discharged, he immediately and perfectly recovered. (Epist xii. 13.) In very many of the cases also of purulent discharges from the ear, which have been preceded by urgent headachs and other symptoms in the head, there is reason to conclude, that a connexion subsists between it and some abscess in the brain, or effusion of pus between the membranes.

(*To be continued.*)

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[*] “Novi aliquos scotomiæ et affectibus vertiginosis valde obnoxios, quibus sub finem paroxysmi aquæ limpidæ ingens copia exstillavit; cujusmodi evacuatione, velut critica, paroxysmus terminari solebat. Non ita pridem virgo in hac urbe degens cephalæa immani diu affligebatur, atque inter medios cruciatus *multum seri flavi et tenuis* quotidie naribus effluebat: novissima hyeme hæc excretio aliquandiu substitit et tum demum ægrotans. Capiti deterius habente in convulsiones atroces cum stupore incidebat; atque intra triduum apoplectica interibat.”—*Willisii de cerebri anat. cap.* xii. *p.* 305. Willis relates another instance very similar, of a lady who had suffered from intense headachs. “Necnon vertigine et crebris spirituum animalium deliquiis. Quæ cum a gravi paroxysmo melius habere cœpisset, primo in cerebri fastigio motum formicantem velut aquæ irrepentis sentiebat: dein motu isto paulatim anterius et deorsum progrediente, demum aquæ limpidæ plures guttæ e naribus exstillabant.”

II.

Case of a Double Psoas Abscess. By Mr Milroy, Surgeon. Communicated by John Lizars, F.R.C.S.Ed.

Peter Furlow, 14 years of age, of a diminutive stature, delicate constitution, and of a fair complexion, when 14 months old, fell from his father's arms, and was considerably hurt on the spine, about the last dorsal vertebra. After recovering from this accident, he always stooped a little forwards; and after the lapse of two years, the spine became unusually prominent over the seat of the injury; he did not, however, complain, and indeed his health did not appear at all affected; he became fat and strong, but yet, after any considerable exertion, such as walking up a long flight of stairs, he used to complain of a sense of uneasiness at the right flank, and of weakness in the region of the loins. Two years ago the uneasiness in the right flank became more distressing, and was much aggravated by fits of vomiting, to which he was subject ever afterwards. About eight months ago, he was sent to be taught the trade of a watchmaker; and being exposed to damp, and considerable fatigue, he thought his complaints somewhat increased. Shortly after this, he had a violent fit of vomiting, when a swelling was observed in the left groin, of a small size, and hard to the touch; as it gave him no pain, no attention was paid to it; his mother conceiving it to be what she termed a "wax kernel." It, however, gradually increased in size; and his mother becoming anxious, he was taken to a public institution for advice. It was supposed to be a ventral hernia, as it appeared to recede on pressure, and to receive an impulse when the boy coughed. Another medical gentleman now saw it, and considered it to be an enlarged lymphatic gland, and ordered leeches and cold lotions. At this time I saw the boy, and found the swelling about two inches from the anterior superior spinous process of the os ilium, above Poupart's ligament, and extending in a direction towards the pubes; it was about the size of a hen's egg, hard, a little painful, and could be partly returned when pressure was made upon it. As I was not aware at this time that he had any deformity in the spine, I inquired if he had any pain in his loins, to which he answered that he had not. On examination, I found the spinal column very prominent over the last dorsal and first lumbar vertebræ; it did not, however, give him the least uneasiness, even when firmly pressed. What distressed him most, was the pain in his right flank, when he was troubled with vomiting. He found the pain much relieved by wearing any sort of bandage tightly round his loins. About a week after this, the abscess increased considerably in size, began to point, and fluctuation became quite manifest. On the evening of the 27th August, it broke spontaneously by a small opening, and discharged about eight ounces of matter, which was partly serous, with flakes swimming in it, and partly purulent, and of a healthy appearance. The boy felt much relieved by it; and the anterior superior spinous process of the os ilium, which had before been acutely painful when touched, now gave him no uneasiness.

August 29th.—During last night, a large quantity of scrofulous pus was discharged, and to-day he felt quite easy.

31st.—Abscess free from pain; he was unable to stretch the limb of the affected side completely out; and when he attempted to do it, he felt pain in the knee.

September 2d.—He had considerable pain in the seat of the abscess yesterday, which was relieved by a common poultice; the discharge had now become decidedly scrofulous; the opening was dressed with simple dressing; mild tonics were exhibited, although the appetite was not impaired.

6th.—Continued as at last report.

13th.—The boy was now able to go about, and to attend school regularly; the serous discharge, however, continued. On introducing a probe, it passed to the extent of three inches towards the pubes, and upwards to the anterior superior spinous process of the os ilium, the orifice being about an inch and a half from this point; a bandage and compresses were ordered.

25th.—Discharge thicker and more healthy; general health much the same.

October 8th.—Appeared becoming slightly hectic; a counter-opening at the pubes recommended, but declined; astringent injections were used with no benefit.

12th.—Felt better; appetite improving; discharge less; continued to dress it with simple dressing, and to apply compresses and a roller.

22d.—Discharge again increased in quantity; hectic symptoms had begun to return; and he was now almost constantly confined to bed.

31st.—Strength daily failing; occasional diarrhœa; night sweats; the discharge thick and healthy, but of a greenish colour.

November 3.—I made a counteropening at the pubes, so as to allow the matter to escape more easily.

7th.—No irritation succeeded the counter-opening, but the incision had been allowed to heal up, in consequence of the mother neglecting to introduce a piece of linen between the lips of the wound; discharge rather less in quantity.

15th.—Four or five days ago he was seized with a smart attack of febrile symptoms, which gradually subsided, and were followed by an inflammatory affection of the scrotum and testicles, which were extremely tender on pressure, and hot to the finger. The integuments of the penis were beginning to be similarly affected; he voided his urine quite easily; he could assign no cause for the supervention of these symptoms; the discharge from the abscess had diminished since they appeared; little constitutional disturbance. Lotio acet. plumbi partibus affectis.

21st.—Inflammatory affection had gradually subsided, and the discharge again increased; in other respects the same.

December 8th.—Complained of acute pain on the outside of the right thigh, which much increased on pressure; motions of the hip and knee-joints perfectly free; no symptom of the formation of pus; appetite considerably impaired, and hectic symptoms aggravated.

12th.—No change since last report. I laid open the sinus in the direction downwards to the pubes, to the extent of three inches, and dressed it from the bottom.

19th.—Discharge still very profuse; severe diarrhœa; great debility; some degree of enuresis; while examining the wound the boy coughed, and I observed pus to escape from the deepest part of the wound. On introducing the probe, it passed under all the abdominal muscles upwards, towards the anterior superior spinous process of the os ilium.

28th.—Occasional spasmodic twitches in the muscles of the abdomen and thorax; debility rapidly increasing; pain of right thigh still continued severe, and not at all relieved by poultices or anodynes; no appearance, however, of suppuration.

January 6th.—Since last report had been rapidly becoming worse; appetite completely gone; weakness much increased; discharge considerably diminished in quantity, but still of a healthy appearance, being thick, yellow, and not at all fetid; urine had been very scanty, and high coloured; delirium frequently recurring; at present was in a semi-comatose state; when roused, however, was able to answer questions, and frequently called for a little whisky and water, of which he had been in the habit of taking a considerable quantity during the day.

January 7th.—Died at 9 *a. m.*, being tolerably sensible to the last.

Dissection, January 8th, 2 *p. m.*—The superficial sinus which

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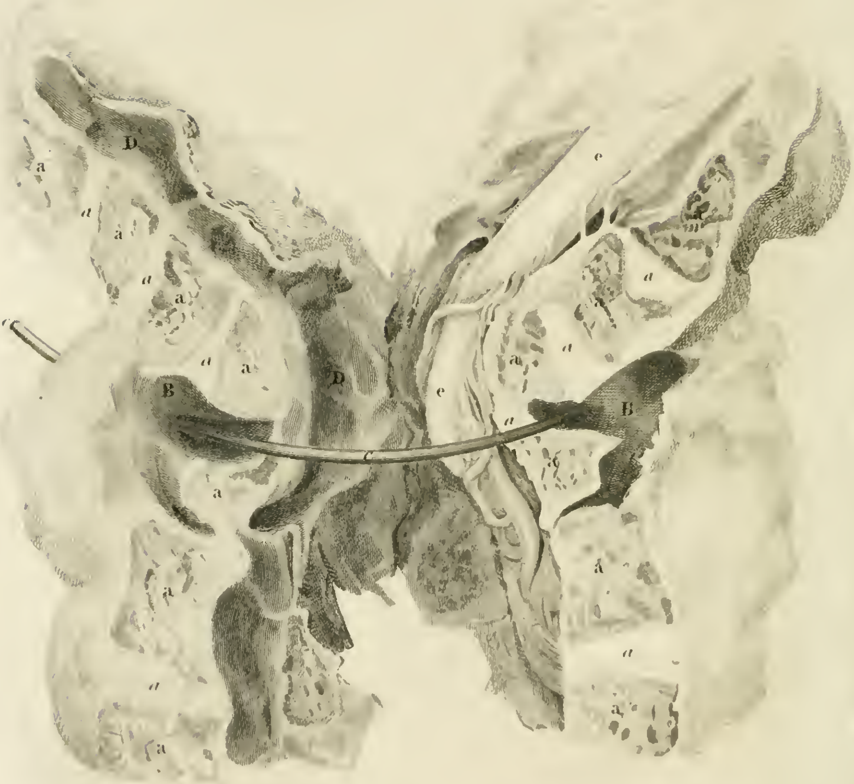

Drawn & Engraved by W.H. Lizars

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extended upwards towards the anterior superior spinous process of the os ilium, was laid open, and found not to extend further than two inches. The probe was then introduced along the deep sinus, and an incision made upon it with the scalpel, when it was found to run upwards under the abdominal muscles, on the inner edge of the crista ilii, along the iliacus internus, to the loins. When the vertebræ were exposed, they appeared perfectly sound both to the finger and to the eye; but on introducing the probe along the course of the sinus, it passed across to the right lumbar region, apparently through the substance of the bodies of the distorted vertebræ. On cutting down to the probe on the right side of the vertebræ, a large abscess was discovered, filled with a profuse quantity of purulent matter, and, on passing the finger downwards, it was directed along the course of the right psoas muscle, which was completely disorganized. In continuing to trace the sinus or abscess with the knife, we discovered it to pass under Poupart's ligament and the fascia lata, and to follow the course of the psoas magnus muscle, burrowing downwards and backwards to the tuberosity of the os ischium, forming a tremendous sac in the nates, and extending along the popliteal aspect of the os femoris in the hamstring muscles, downwards or distad, near their insertion into the bones of the leg. The os femoris was laid bare nearly its whole length. A prodigious quantity of unhealthy bloody pus issued from this enormous abscess. We regret that we did not measure the quantity, but from calculation, we should suppose there might be about three quarts. We now proceeded to saw through the vertebræ above and below the seat of the disease. On separating the connections of the vertebræ on their fore part, a large serous bag was opened, from which a considerable quantity of bloody-coloured serum issued; indeed all who were present, Mr Lizars, Mr Cooper, Mr Klein Grant, and myself, conceived that an opening had been made into the cavity of the abdomen, and that ascites existed. It was found, however, to be completely distinct from the peritoneum, and was situated on the fore part of the upper lumbar vertebræ, extending across between the two lumbar abscesses. On detaching the vertebræ, it was opened, so that it could not be more minutely examined.

In the Plate, the vertebræ are sawn longitudinally from their bodies to their spinous processes. The letters, a, indicate the bodies of the vertebræ, *a*, their intervertebral cartilages, *c*, a probe introduced into the foramen B, by which the abscesses communicated, D, the spinal canal, and e, the spinal cord.

III.

On the Formation of the Hydriodate of Potassa. By EDWARD TURNER, M. D. F. R. S. E., &c. Fellow of the Royal Colleg of Physicians, and Lecturer on Chemistry, Edinburgh.

THE extensive application of this salt to medicine renders it a matter of some consequence to know a convenient method of preparing it. Two modes are commonly recommended for this purpose. One of them consists in digesting iodine in a solution of pure potash, when, from the decomposition of water and the combination of its elements with different portions of iodine, hydriodic and iodic acids are produced. Each acid combines with potash, forming in the one case a sparingly soluble iodate, and in the other an hydriodate of great solubility. By evaporating to dryness and igniting carefully, both salts are converted into an ioduret of potassium;—the hydriodate yielding watery vapour, the iodate a quantity of pure oxygen. The ioduret of potassium, thus formed, is converted into the hydriodate of potash, by the sole action of water; and it now only remains to neutralize free potash, should any excess of that alkali be present, by hydriodic acid.

The volatility of the ioduret of potassium at high temperatures, particularly when aided by the escape of gaseous matter, is a source of loss in this operation which the most dexterous can scarcely avoid, and which is considerable if the heat be not carefully regulated. Hence it is, doubtless, that M. Robiquet, who has described this process in the 8th volume of the *Journal de Pharmacie*, prefers to it the more direct one of neutralizing pure hydriodic acid by potash, a practice which to the best of my knowledge, is generally pursued. The only difficulty of this method is in obtaining hydriodic acid in sufficient quantity. It is exceedingly easy to form hydriodic acid on a small scale, since nothing more is necessary than to conduct a stream of sulphuretted hydrogen through water in which iodine is suspended. But when an attempt is made to act on several ounces of iodine at once, the sulphur proceeding from the decomposition of the sulphuretted hydrogen very soon begins to attach itself to the iodine, and at last adheres so tenaciously, that the latter, by being enveloped in a mass of the former, is completely protected from the action of the gas. From having felt this inconvenience repeatedly, I was obliged to have recourse to some other means, which might be employed pharmaceutically; and as the method I now invariably pursue has always afforded satisfactory results, a brief description of it will not, I conceive, be uninteresting to the readers of this Journal,.

The process is founded on the well known fact, that the iodate of potash, like all other soluble iodates, is decomposed by sulphuretted hydrogen. The hydrogen of that gas unites with the oxygen of the iodic acid, forming water, and both iodine and sulphur become free. But the iodine acts instantly on the next portion of sulphuretted hydrogen with which it comes in contact, deprives it of hydrogen by means of a superior affinity, is itself converted into hydriodic acid, and an additional portion of sulphur is deposited. By affording an adequate supply of sulphuretted hydrogen, every particle of iodic acid will be gradually converted into hydriodic acid; and hence, instead of the iodate, the hydriodate of potash is procured. This conversion will ensue with equal certainty in a mixed solution of the iodate and hydriodate of potash. Hence, when iodine is digested in pure potash, we may convert the iodate into the hydriodate, not only by the aid of heat, but also by the action of sulphuretted hydrogen. The method of operating, which I should recommend, is as follows. Put any quantity of a solution of pure potash into a matrass, and add repeated portions of iodine, promoting the action by a gentle heat. Each successive portion is instantly converted, by the decomposition of water, into iodic and hydriodic acids, both of which combine with the potash, so that a point at length arrives when that alkali is completely neutralized. * The precise quantity requisite is easily ascertained, because the solution remains colourless so long as any free potash is present, but receives a colour when it is neutralized; for any iodine which may be then added, will be dissolved as such, and communicate its peculiar brown colour to the solution. The solution being coloured is our guarantee that a sufficient supply of iodine is present, and it would be the only one requisite if the potash had been free of carbonic acid; but as this rarely happens, and as it is essential to the success of the process that there should be no free alkali, it is advisable to be sure of the absence of alkalinity by the test of reddened litmus paper. If the blue is restored, it will be necessary to add more iodine, so that there should be a considerable excess

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* An ounce of iodine requires about one ounce and seven drachms of *aqua potassæ* of specific gravity 1150, the solution having been purposely made in the ordinary way with common potash.

of it. The solution should be moderately diluted, and a stream of sulphuretted hydrogen be made to pass through it till all the iodate is converted into hydriodate. This point is easily ascertained; for when a sufficient quantity of sulphuretted hydrogen has been used, the solution retains the odour of the gas readily, and any colour it may have, arises only from sulphur. On the contrary, if the process is not finished, the odour of sulphuretted hydrogen disappears in the space of five minutes, and the solution, if colourless before, again becomes coloured. This operation being completed, the clear solution is removed by filtration, and washing with hot water, from the sulphur. It is now boiled to separate sulphuretted hydrogen, and any sulphur which may subside after ebullition should be removed.

If an excess of hydriodic acid is present, it should of course be neutralized by pure potash, and the solution be afterwards evaporated to obtain the dry salt, applying the heat cautiously towards the last. If an excess of potash had incautiously been used in the first stage, a hydrosulphuret of potash will be mixed with the hydriodate; and the addition of a little hydriodic acid would be necessary to expel the sulphuretted hydrogen. As the common solution of potash is often slightly coloured, and hence diminishes the whiteness of the salt, it will in such cases be advisable to filter through animal charcoal,—an operation which remedies the evil perfectly. An ounce of iodine, in the common state of dryness in which it is sold, yields about ten drachms of perfectly dry hydriodate of potash.

The only practical objection to this process, is the quantity of sulphuretted hydrogen required to decompose the iodate, which indeed is a matter of little moment, since the materials for making that gas are cheap. The quantity necessary can, however, be lessened in the following way; The presence of a small quantity of the hydriodate of potash greatly augments, as is well known, the solubility of iodine in water. If, therefore, a large proportion of iodine be added to a small one of potash in solution, the former will be freely dissolved by aid of the salts which are formed; and if sulphuretted hydrogen be then passed through the solution, a proportionally small quantity will suffice, and much free hydriodic acid will be mixed with the hydriodate of potash. I prefer, however, to add, in the first instance, just so much iodine as is sufficient for neutralizing the potash, having repeatedly observed a pure colourless hydriodic acid to become coloured on being neutralized, particularly when a carbonate was employed, even though the solution had been previously boiled to expel atmospheric air.

A French chemist, Mr Baup,* has made some judicious remarks, in the 9th volume of the *Journ. de Pharmacie*, on the means of detecting impurities in the hydriodate of potash, which, as being easy of execution, and in accord with my own observation, I shall take the liberty to insert. The substances with which the hydriodate is most likely to be adulterated, are the muriates of soda and potash, since all these salts crystallize alike. On putting the dry hydriodate of potash into three-fourths its weight of water at 60° F., it dissolves completely, leaving the muriates undissolved. In this way, the presence of $\frac{1}{10}$th of muriate of soda was detected, and the test is applicable to any other salt of sparing solubility. One part of the dry hydriodate should dissolve in six parts of alcohol of sp. gr. 850 at 60° F., by which a very minute quantity of many salts will be discovered. In addition to these tests, I may observe, that a solution of the hydriodate should cause a copious and beautiful yellow precipitate with acetate of lead, and a brilliant red with corrosive sublimate. The hydriodate, though deliquescent, is very slightly so when pure. Should the deliquescence, therefore, be considerable, it must arise from some impurity, probably from subcarbonate of potash, which will readily be detected by its action on turmeric paper.

It is probable that a sulphuret of iodine is formed during the process which I have here described; but, if so, it is not generated in sufficient quantity either to injure the purity of the salt, or to occasion an appreciable loss of iodine.

IV.

Case of Pneumonia, treated by Tartar Emetic. By WILLIAM WOOD, Esq. Surgeon. Communicated by CHARLES ANDERSON, M.D. Surgeon, Leith.

OBSERVING, in the Edinburgh Medical and Surgical Journal for July 1824, a notice respecting the present Italian mode of treating peripneumony by tartar emetic in large doses, I resolved to try it in the first case that should come under my care.

While my resolution was yet fresh, I was called to a severe case of pneumonia, the history of which I now take the liberty of sending you.

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* Mr Baup has in the same place proposed a process for making hydriodate of potash by means of iron, of which I have at present no experience.

As the patient lived in the immediate neighbourhood of my house, I had an opportunity of seeing him frequently, and watching the effect of the medicine. I have not ventured on the large doses said to be given by Professor Rasori, nor have I trusted entirely to the tartar emetic; the lancet was used also, with undoubted good effect, and would certainly have been used oftener, had I been permitted.

Contrary to what is said of this medicine having "*a true counter-stimulant action*," and "*without causing any sensible evacuation*," it is evident, that in the following case a constant and copious perspiration was excited; and more so as the dose was increased; and that, when the medicine was omitted for some time, the perspiration gradually decreased, and at last entirely ceased. After the third bleeding, I did not intend to push the tart. antim. farther, although I only used it in small doses; but on finding the symptoms aggravated, and on my patient obstinately refusing to be bled again, I ventured on larger doses, but combined with opium. The perspiration returned in three hours, the pulse fell from 90 to 82, and he was in a comparatively easy state. The tart. antimon. was continued till he had taken thirty-two grains, in about twelve or thirteen hours; nausea had occurred, but no vomiting; the perspiration continued to be copious, and the pulse fell to 80. He took four grains again, after which there was constant nausea; the perspiration in a short time began to decrease, and was gradually less till the surface of the body was merely moist, and at the end of the fifth hour the pulse had sunk to 76. I thought it then proper to stop the use of the medicine. The nausea continued for five hours after the last dose, when he was relieved by vomiting. Besides the diaphoretic and '*counter-stimulant*' action of this medicine, it seems to have, on the last day and night of its exhibition, proved powerfully diuretic,—increasing as the determination to the surface decreased.

I offer no observations on my plan of exhibiting the tartar emetic, nor do I say any thing of the probable effects of the large doses of opium. I have merely stated facts as carefully as I could.

Saturday, 5th February, 1825,—I was requested to visit Richard Hay, æt. about 34, by trade a blacksmith. He is a stout made man, of a pale complexion; has been subject to a cough, at this season, for several years; in other respects he has generally enjoyed good health. Reports his brother to have died, of an inflammation of the lungs two years ago. Says, that on Monday last he was seized with a severe shivering fit, pain of the back and headach; that he took *a warm drink*, and went to bed; the shivering left him in half an hour. Next day he had difficult breathing, with a sense of tightness and weight across the breast. He continued at his work, till yesterday, when he was forced to give it up, chiefly from the headach.

I found him sitting by the fire. He complained of severe headach, increased by coughing, which was frequent, short and dry; a dull, heavy pain all over the chest, increased by attempting a full inspiration; pain of the back and joints; great thirst. His tongue dry; pulse 104, and hard; skin hot and dry; bowels said to be regular. I immediately took away 30 ounces of blood from the arm, and ordered the following mixture.

℞ *Tart. Antimon.* ℈*iii.* *Tin. Opii Camph.* ʒ*iss.* *Aquæ font.* ℥*ij.* *f. Mist. Sumat* ℥*i. statim; alteram post horas duas.*

February 6th. I found my patient sitting again by the fire. He has spent a restless night; headach rather easier; pain and uneasiness of the breast as yesterday; cough very troublesome; took the medecine as ordered, had nausea after the first dose, but no vomiting; has perspired little; thirst increased; tongue dry; pulse about 98, rather softer; bowels costive. The blood exhibited a slight buffy coat. I was inclined to repeat the bleeding, but my patient having a strong prejudice against it, I was forced to try other means. I ordered him to bed, to be kept cool and quiet, and to take the following powders.

℞ *Calomelan. gr. vi. Pulv. Jalapæ gr. x. M. tales doses ii. Sumat un. statim; alter. post horas tres.*

7 *p. m.* The laxative has operated well, Headach rather easier; sense of weight and tightness over the chest increased; respiration short and hurried; cough very troublsome, dry; pulse 98, full and soft. Ordered a large blister to be applied to the breast, the whole length of the sternum.

℞ *Tart. Antimon. gr. iv. Tinct. Opii* ʒ*i.* *Aquæ* ℥*iv. ft. sol. Sumat* ℥*i. quaque tertia hora.*

February 7th, 9 *a. m.* Has slept some through the night, took the last of the medicine about an hour ago; no nausea; has perspired constantly since 2 o'clock this morning; headach easier, but augmented by coughing; breathing easier, can take a longer inspiration, but not without exciting the cough; pulse 98, full and soft. Feels the blister uneasy; I ordered it to remain on till noon. *Rep. Sol. Antimonialis, additis gr. ii. Tart, et Sumat ut heri.*

8 *p. m.* Headach very severe; thirst almost intolerable; tongue parched; feels no pain in the breast, except when cough-

ing, or on a deep inspiration; has perspired copiously during the day; pulse 98, full and soft. He refuses the water gruel, which he has used as his common drink. Let him have milk and water.

Rep. Sol. Tart. Ant. sine Tinct. Opii.

February 8th, 10 *a. m.* Slept frequently through the night; headach easier; breathing as last night; thirst more moderate; perspiration copious; pulse 94, soft. *Cont. Solutio cum Tart. Antimonii gr. viii. Sumat ut antea.*

8 *p. m.* Headach very severe; breathing continuing easier; thirst great; tongue parched; perspiration copious; pulse 94, soft; bowels costive. I ordered the hair of the head to be cut short, and four leeches to be applied to the temples. *Rep. Solutio ut mane, et habeat Pulv. Purg. e Calom. gr. vi. Pulv. Jalapæ gr. xv. summo mane sumend.*

9th February, 10 *a. m.* Had the hair cut, but could not get the leeches applied; slept a little; headach easier; still has pain of the breast on attempting a deep inspiration, has perspired copiously through the night; thirsty; pulse 92, soft. He took the laxative early in the morning, but it had not operated. I ordered another powder to be taken at 1 *p. m.* if the first should not have operated.

5 *p. m.*—Has taken the second powder without effect. Has no headach; breathing and pain of chest as in the morning; coughing more, with expectoration, once tinged with blood; has perspired less to-day; thirst great; tongue rather moister; pulse 92, full and soft; feels his bowels very uneasy. Ordered the belly to be fomented, and a laxative enema to be administered immediately. ℞ *opii gr. iss. Tart. ant. gr. iv. ft. pil. hor. somn. sumend.*

At 9 *p. m.*—I was again requested to see my patient. He had got the enema, which brought away a copious fetid discharge. About half an hour ago he was seized with violent pain in the right side, increased by the slightest motion, or attempt to cough; pulse 97, full. I forced him to submit to another bleeding—got ℥xviij. Applied a large blister to the side, and ordered the pill prescribed at last visit to be taken immediately. Immediately after the bleeding, the pulse was 92, and soft, but quickly increased to 96.

February 10*th,* 6 *a. m.*—Has slept some through the night, but much disturbed; pain of the side somewhat easier; has perspired *very* copiously; tongue dry; pulse 95, full and soft. The blood covered with buffy coat. After a great deal of persuasion, I was allowed to take away other ℥xx of blood.

At 11 *a. m.*—I found all the symptoms better. Little or no pain of the side; coughing easy, and expectorating more freely; perspiration very copious; pulse 84, full and soft. Blood buffy. ℞ *Sulph. magnesiæ ℥j. Supertart. potassæ ʒij. Decoct. sennæ ℥iv. ft. sol. stat. sumend.*

At 4 *p. m.*—I was again sent for. The pain of the side and difficulty of breathing had returned with more violence; skin dry; face flushed; pulse 90, hard. He had not taken the laxative. I could not prevail on him to allow another bleeding. Determined to give the tart. antimonii a fair trial, I sent him the following pills ℞ *Opii puri gr. vi. Tart. antim. ℈j. M. et forment, in pilulas iv, quarum sumat unam quaque hora.*

8 *p. m.*—All the symptoms more favourable. He has taken three of the pills, and feels a slight degree of nausea; says he has not felt the pain of the side since he took the second pill; countenance pale; thirst much less; feels drowsy, but has not slept; slight uneasiness in the bowels; has had no motion today; has passed his urine in *great* quantities, but at long intervals; perspiring *very* copiously; pulse 82, soft. Ordered the remaining pill to be taken immediately, and the following pills to be taken through the night. ℞ *opii puri gr. iv. Tart. ant. gr. xvi. Mic. panis q. s. ut ft. pilulas v. Sumat unam quaque hora; si nausea supervenerit, quaque secunda hora; si vomitus, omittantur.*

February 11*th*, 8 *a. m.*—Has slept more this night than since the commencement of the attack. Continues to perspire *very* copiously; can now inspire more fully; cough less, with expectoration; thirst increased; tongue rather moist; has taken three of the pills last prescribed; has had slight uneasiness at the stomach, with frequent nausea, but no vomiting; bowels costive; has passed no urine since last night; pulse 80, full and soft; feels very drowsy now.

I ordered a laxative enema immediately; one of the remaining pills to be taken after the operation of the enemas, the other at noon.

3 *p. m.*—Had the enema about an hour ago; has had one natural stool, and passed his urine copiously; took one pill after the enema; nausea constant; has perspired *much* less; feels drowsy; has no pain but from the blisters; tongue dry; considerable thirst; pulse 76, soft. *Omitt. pil. tart. ant.*

8 *p. m.*—Has slept almost since last visit; he vomited about an hour ago; has had no nausea since, nor uneasiness of the bowels; expectoration copious, sometimes slightly streaked with blood; has no pain but from the blisters; skin moist; pulse 76, soft; has had frequent desire to pass his urine, with-

out effect; the bladder feels distended. I ordered the region of the bladder to be fomented with hot water. In half an hour after the visit, a messenger was sent to inform me, that he had had a very copious discharge of high coloured urine, immediately after I left him.

12*th February*, 10 *a. m*—Has coughed a good deal through the night; in other respects feels comfortable; urine natural; bowels costive. *Cap. stat. sal. lax. antea præscript.*

8 *p. m.*—Laxative operated little; coughing less. *Hab. infusi sennæ ℥iv. Stat. sum.*

13*th February.*—Cough continues troublesome at times; in other respects well. The laxative operated this morning.

14*th February.*—Got little sleep last night on account of the cough; says he would be quite well if the cough got better. ℞ *Tin. opii ℥ii. Acet. scillæ. ℥vii. Aquæ ℥ vii. M. cap. coch. ii. tertia quaque hora.*

15*th February.*—Coughing less; sat up a little last night. Sitting up to-day.

16*th February.*—I found my patient continuing to do well. Proposed to discontinue my visits.

16*th February* 1825.

V.

An Account of a Case in which a Perforation of the Soft Palate was closed by an Instrument composed of Gum Caoutchouc, and a Defect of the Voice obviated. By JOHN ALLAN, Member of the Royal College of Surgeons in London. Communicated by Dr BARCLAY, Lecturer on Anatomy.

PERFORATIONS of the velum pendulum palati, unconnected with disease of the bones, are of such comparatively rare occurrence, that the particulars of a single case cannot be of very general interest; and under this impression, I have been doubtful whether the present one was of sufficient importance to deserve the notice of the profession. As, however, the simple and unexpensive contrivance by which the patient's voice was restored, may be applied with equal advantage to many of the more numerous class of cases in which perforations are formed through the bony portion of the roof of the mouth, I am induced to believe that the making it generally known may be of some use. To those who particularly profess to relieve defects of the palate by artificial means, it may perhaps seem of some importance, as, from a sketch recently published of the history of this branch of art, it would appear that the attempts to remedy defects or perforations of the velum pendulum, have been heretofore attended with comparatively little success. *

The subject of the present case, a widow thirty-one years of age, first applied to me early in July last, to relieve her from a substance that was sticking in her œsophagus, and which she described accurately enough as a thin plate of silver, concave on one side, and convex on the other, to the latter of which a piece of sponge was attached. This instrument had been adapted, a few days previously, to close an opening in the velum pendulum, which had been the consequence of an ulcer about eighteen months before. The aperture was situated about one-third of an inch above the lower edge of the velum, and a little to the right of the mesial line. Its form approached that of a triangle, the base being about a quarter of an inch in length, and parallel to the margin of the velum. The two sides were each about a fourth part longer than the base, and where they met above, the aperture was not distinctly angular, but slightly rounded. At the time of this examination the edges were swelled, and a good deal excoriated, and there likewise existed a small vesication on the palate, about half an inch from the edge of the aperture. These marks of inflammation had been occasioned by the friction of the velum upon the instrument, and plainly showed that any hard and unyielding material was ill calculated for forming instruments to be worn permanently in contact with that soft and perpetually moving substance.

This circumstance, and the degree of success which had attended the operation performed by M. Roux of Paris, in the year 1817, on the principle of the hare-lip section, for closing a congenital fissure of the soft palate, and since imitated by Mr Alcock in London, suggested to me the propriety of attempting an operation of the same kind in the present case. It would be tedious to enter into a detail of the various difficulties that attended the operations that were accordingly performed. It is sufficient to say, that after the edges were pared, which was effected partly with scissars and partly with a scalpel, two ligatures were passed, by which they were brought exactly into contact, and the voice of course instantly restored; and that, although within forty-eight hours both ligatures were found to have cut their way through one of the edges, yet after the inflammation had subsided, the upper and narrow part of the aperture was found to be closed by adhesion. This partial success encouraged me to attempt a second operation, which, how-

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* See Snell on Artificial Palates, published in 1824.

ever, was deferred till the end of September, when the patient having, by my advice, passed the heat of the summer in the country, at a distance from London, was in a state of perfect health. On this occasion, with a view of diminishing the chance of the ligature cutting out before adhesion had taken place, a very narrow silk ribbon was employed instead of a round thread, but notwithstanding this precaution, and a total abstinence from eating, drinking, or speaking for thirty hours after the operation, the ligature was again found, within forty-eight hours, to have cut through one edge of the aperture.

Notwithstanding this vexatious result, the closure of the aperture by adhesion being still considered by an eminent surgeon, a much esteemed friend of mine, as highly probable, a third attempt was made, with still greater caution if possible, but with no better success. After this last operation, the aperture remained nearly of a circular form, and its area not larger than before the first.

When the failure of the second had made me almost despair of success from any operation, it had occurred to me, that an instrument of Indian Rubber, might be so constructed as to close the opening. My first idea was, to get an instrument made of leather or silk with a coating of the dissolved Indian Rubber, and as I had seen Mr Weiss making knee covers, &c. of that material, I now applied to him; but what he furnished to me was two flat circular slices of Indian Rubber, connected together by a neck of the same material, which was attached by either end to their respective centres. As this attachment depended merely on the adhesiveness belonging to the fresh cut surface of the Caoutchouc, the instrument did not remain many minutes in the mouth, before its several parts separated. I afterwards joined three such pieces together with silk thread. The central piece or neck, was of a size to fill without distending the aperture, and the two end pieces overlapped its edges about the eighth part of an inch in all directions, so that when once one end was pinched up and introduced through the opening, it expanded behind the velum, and there was no probability of the instrument being displaced by any motion of the part.

At the end of eight days, however, either the thread was corroded by the saliva, or, from being constantly opposed to the elasticity of the Indian Rubber, had at last cut through the latter, as I have observed to happen in pessaries of the same material, for after seeming to the patient rather loose in its place for two or three days, the instrument was at last swallowed by her while at breakfast, a circumstance of which she was only made aware by the immediate change in her voice. When she informed me of this accident, for which I was not altogether unprepared; I immediately shaped a new instrument out of one solid piece of Indian Rubber. In this instance I made the overlapping parts convex towards each other, or where they are in contact with the velum, and by this means obviated the irritation which had at first been occasioned by the friction of the velum upon the edges of the end pieces of the former instrument, and which at one time had made me apprehensive that it would be necessary to remove it. This slight inflammation had, however, entirely disappeared after a few days, when the instrument had become a little loose in its situation as already described.

The one at present in use, was introduced without exciting either retching or coughing. Without it the patient could not take a full draught of any fluid without the certainty of its flowing out at her nostrils, she could not urge her breath with sufficient force to blow out a candle, and her voice was so nasal, and her articulation so imperfect, that she had some difficulty in making her meaning understood, especially to strangers, and indeed she had relinquished a very desirable situation, solely on account of this defect. She has as yet experienced no inconvenience from the presence of the instrument, which has now been about three weeks constantly in its place night and day. She performs the act of deglutition without the necessity of being particularly on her guard, and indeed without being made sensible of the defect in her palate, while her voice is so completely restored, that she speaks and even sings without the least perceptible defect.

Since this instrument can be worn with so little inconvenience in the soft palate, notwithstanding the motions of the part, it may well be supposed that the same soft, pliable, light, and durable material might be employed with equal advantage in the construction of instruments, for the relief of defects or perforations in the bony palate where there is no motion. I have had no opportunity as yet of seeing any case of this kind; but Mr Weiss the instrument maker, who is well known to have lately introduced a very ingenious improvement in the construction of the silver instruments heretofore usually employed for such puposes, informs me that he has furnished one person with an instrument of Indian Rubber, intead of a silver one which was applied for, and that the individual was greatly pleased with it. Further trials, however, will probably soon be made, and the extent of the utility of the caoutchouc for such purposes decided by experience. the only safe ground for satisfactory conclusions on medical subjects.

For the information of surgeons who may propose to operate after M. Roux's method for the relief of fissure of the soft palate, it may not be out of place here to state, that the needles which I found most easy to pass, were segments of a circle whose diameter did no exceed $\frac{15}{16}$ of an inch, being considerably less than the smallest that I could find ready for sale in the shops, which were segments of a circle whose diameter was fully an inch and half. For passing the needles, too, the common dressing forceps with ring handles were found decidedly preferable to an excellent porte-aiguille.

Leicester Square,
London, 13*th December* 1824. }

VI.

Observations on the Diseases prevalent among the Natives of Hindostan. By JOHN HENDERSON, Assistant Surgeon, Honourable East India Company's Service, Bengal.

HEPATITIS.

My practice in this country having lain amongst the middling classes of natives, my remarks on the different complaints must therefore be considered to relate chiefly to them. It will then excite less surprise, my considering this disease, both in its acute and chronic form, as rather rare, and the former scarcely if ever met with, except where a wound or injury has been sustained. It appears to me extremely probable, that the same causes which produce hepatitis in the European, would, under the same circumstances, produce splenitis in the native; an analogical proof of which may be adduced from amongst Europeans themselves, where the former is always found affecting those of a sanguine and phlegmatic temperament, while the latter, in both its forms, is most commonly found amongst those of a choleric or melancholic temperament.

The disease is chiefly confined to the Mussulmans, whose religion allows of a better fare than that of the Hindoos; and of those, the richer, the more debauched, the drunkards, or those addicted to smoking bang, opium, or other drugs, are more liable to it than others. The females are, perhaps, from their sedentary life, more subject to it than men; and though of itself it almost never is a fatal disorder, it gives rise to dropsies, &c. which carry off the sufferer in a very short time. The symptoms differ little from those we are in the habits of seeing amongst Europeans, except that they are milder. The eye, often assumes the appearance of that of a person addicted to bang, that is, the vessels of the conjunctiva enlarge and assume a yellowish black colour, appearing to cover it like a web or fleshy membrane. The skin generally assumes an unhealthy yellow colour, but sometimes it gets from a tolerably fair colour to a dark black, which it retains perhaps some time after the cure is completed.

I have been in the habit of prescribing a mild course of mercury, accompanied with gentle purgatives, which, when persevered in, were unusually successful. I am sorry I cannot state the effects of either the nitric acid, or the nitro-muriatic acid bath, my experience in the disorder having hitherto been extremely limited.

SPLENITIS.

THIS is a disorder peculiarly prevalent amongst natives, especially in certain districts, where almost every third person appears to be affected with it. Children are very liable to it; and when we see one of them with a particularly large belly, we may almost for certain predict that the spleen is enlarged. It is itself not only a secondary disorder, occurring after febrile and other debilitating diseases; but when induced, it becomes the cause of many and dangerous maladies. Fevers, dropsies, and dysenteries are its most common results; and when a miasmatic or simple remittent fever is of difficult solution, we generally find the cause to lie in a morbid state of the spleen.

In this last case, the fever frequently partakes somewhat of a hectic diathesis; and so often does this occur, that I begin to think that, in certain situations, the nitric acid should always be given after those fevers. Affections of the spleen render the patient peculiarly liable to all descriptions of fever, while the same cause protracts his recovery, and at length, after a severe attack, dropsy ensues, which puts a period to his miserable existence. It sometimes acquires an enormous size, and can in almost every instance be felt by the hand to be hardened. The constitutional symptoms denote debility; and though it is sometimes unaccompanied with much derangement of the functions, a hectic sort of fever, having its paroxysms at various times in different individuals, but always at the same time in the same individual, is its usual attendant. A light coloured glassy tongue is a pretty constant symptom, and sometimes, though rarely, the skin assumes that dark colour, such as I have described in hepatitis; it more commonly however is of a pale sickly yellow.

The use of mercury in this disorder is never attended with advantage, and it often excites the most dangerous symptoms. Ptyalism is easily produced, but it often proceeds to such an alarming extent, that gangrene and death have been the result of a few doses of the blue pill. I must confess, that in the only instance in which I have tried it, this occurred to one of my patients, and the tonsils, part of the tongue and pharynx, sloughed off ere the miserable sufferer sunk. Purgatives alone seem to have but little effect, but when combined with acids in the well known preparation of aloes and vinegar, they are nearly a certain cure. The aloes ought to be given so as to affect the bowels considerably, and the vinegar is generally in the proportion of an ounce to 12 grains of the aloes. The cure is extremely tedious, and when the surgeon has not the patients completely under his care, he is seldom able to complete it. I am now in the habit of using the nitric acid instead of the vinegar, and have found it very superior to the vinegar as a cure. The natives commonly resort to ulcers and cupping in this complaint, but these remedies appear by no means worthy of being relied on.

DYSENTERY.

THIS disorder, which is perhaps more fatal to natives than all others put together, ought on that account to claim the most serious attention of the surgeon, whose practice lies amongst them. It is one however where his attention and skill are often ineffectual for its cure, though it is in his power always to afford a temporary relief from suffering. When it supervenes to fevers, as it often does in the lower classes, and in jails, owing to the previously exhausted state of the constitution, its termination is generally fatal. In the same manner, when dropsy succeeds to dysentery, which is likewise extremely common, a cure is seldom if ever effected.

I have remarked two states of the tongue in this disease, the brown furred, and the glassy smooth, which appear to denote two distinct states of the disorder; the first, that it is of a lenient nature; and the second, that it is not only dangerous, but that its duration will be more lasting. The mouth is always extremely dry, and consequently thirst generally prevails; but

I have never observed that diseased craving for food and that morbid appetite, which are so common amongst Europeans. The skin is also generally dry, or, if moist, the perspiration is colliquative. Fever also often prevails, sometimes of a typhoid type, at other times the paroxysm comes on every other day, but in the two last symptoms there is very great variety. There are three degrees of the disorder, which may always be distinctly marked: in the first, the discharge is only watery; in the second, the discharge is more or less composed of mucus and scybala; and in the third, it is composed of blood and mucus, often combined with scybala. These I conceive to be the general forms it assumes, though at its commencement it often passes from the first to the second, and from the second to the first, but more commonly it goes at once from the first to the third. On recovery also, it often goes through the same stages, but most commonly passes at once from the third to the first, without the intervention of the second.

Where the discharge is only watery, it is almost always a mild disease, and gives way easily to the medicines in use for its cure; but I have sometimes seen it prevail at certain seasons, assuming so malignant a form, that no treatment could arrest its progress towards a fatal termination. In this species too, there is no mode of judging with regard to its duration, for it sometimes ends fatally in the course of twelve or fourteen days, while at others it is protracted during many months. The blood that is discharged with the feces is seldom in very great quantities; but as it marks a peculiarly malignant state of the disease, its disappearance is always to be considered as a favourable symptom. It often terminates in an habitual watery discharge, from which it always requires a long time before the constitution is again restored to its natural condition.

There appears to be different species of this complaint, which nothing but the action of the medicines can lead us to the knowledge of; in the one, there seems to be an increased, and in the other a diminished action; or, in the one an inflammatory, and in the other a typhoid diathesis. The former is by far the most common, and the latter, though epidemic when it does occur, is fortunately extremely rare.

The gentler purgatives are always necessary, not only towards evacuating the stagnant feces, but as they stop for a time the bloody discharge, and the secretion of that immense quantity of mucus; and by that means afford the bowels a respite, and a kind of inducement towards a healthy action, they compose one of the most valuable auxiliary medicines in our possession. I have tried a very great number of these, but compared with rhubarb and castor-oil, none of them appear to possess any peculiar advantages. As to calomel, its action is too violent and tedious; it excites that intolerable sickness and distress which are so inseparable attendants on this disease; and should it have the effect of producing ptyalism, though it may for a time arrest the disease, I have always found, that it recurred again with additional violence, in the course of a few days, and carried off the patient. When a purge is given of a gentle kind, it affords great ease to the patient during the time of its action, which is about eight hours, and, if it does not act violently, it can be repeated again soon after, without weakening the patient. I have thus given castor-oil for eight or nine days successively, and cured the complaint with it alone. Sometimes however, the castor-oil is too violent, and the number of evacuations, though they afford great relief, occasion such debility as to render its continuation dangerous. In these cases the rhubarb will be found extremely useful, though it is generally too gentle, and sometimes occasions severe griping; but it will be always found advantageous to commence with the castor-oil, and to repeat the dose every three or four days, according to its action on the bowels and constitution.

The *modus operandi* of the diaphoretic medicines used in the cure of this complaint, is involved in considerable obscurity; and I cannot help asserting, that if the object in this country be to create a determination to the surface, they are in every disorder altogether useless. Perspiration can here be readily excited by heat applied externally or internally, such as the hot bath, or sometimes the cold bath, as in fevers; but I have never been aware of its being excited by the medicines denominated diaphoretics, in any sensible degree, or to be compared with the perspiration which is natural to every one in a hot climate.

It is now pretty generally known, that ipecacuana and the preparations of antimony, if combined in small quantities, with an under dose of a purgative, and taken regularly for some time, will, after a short interval, not only act as purgatives, but, contrary to the general principle, will require to be decreased instead of increased in quantity, when given merely to evacuate the contents of the intestines. Here they must have a distinct action, in stimulating the flow of the natural secretions in the alimentary canal; an action similar to that which calomel and the preparations of mercury often exert, and to which the curative effects of both in this disorder are wholly to be ascribed. Finding in many cases that the ipecacuana succeeded when the antimonial powder completely failed, and *vice versa*, I have been for some time in the habit of combining the two together, in pills composed of three grains of each and half a grain of opium, giving them at first twice, and increasing gradually to three or four times a day. But although the antimonial powder and ipecacuana are the best radical cures of the disorder with which I believe we are acquainted, yet if the practitioner trusts to them alone, without the continued use of the mildest and most certain purgatives, his practice will be as ineffecient as that of the natives themselves. When there is an apparent sudden stoppage of the complaint, they are particularly required, for as we are never to look for a sudden, but on the contrary a most gradual cure, one may be assured, that if purgatives are not at these times administered, it will return, having acquired strength and inveteracy during the intervening time. Antacids will be found useful where the complaint is of some standing; for in general the gastric juice is secreted in such quantities, as not only to cause distress and inconvenience, but to add greatly to the violence of the other symptoms.

Amongst the lower class, and particulary in jails, attention to the diet, and extreme cleanliness, are indispensably necessary. As the disorder is there most frequently induced by low living, no treatment will be found of use without food of a better kind than that which the patient has been in the habit of using.* Animal food, I should think, ought always to be given them in one shape or other; and considerable benefit as a condiment may be derived from the free use of *Dye* or soured butter-milk, to which the natives are uncommonly attached. They conceive that it is one of the most powerful cures of the disease; but though it is the only preparation of milk that does not appear to be injurious, still I have never seen it have any other effects than those which were derived from its nutritive qualities.

In jails also, the dysenteric patients ought to be removed, if possible, to separate wards, where every attention ought to be paid to the speedy removal of the feces, and to a free circulation of air.† For it is an undoubted fact, that if the former be neglected it will reproduce not only the disorder, but render the whole jail unhealthy from fevers and other complaints. It is also equally certain, that where the disorder is particularly prevalent, the cause is almost always to be found in neglect of cleanliness, or the crowded state of the jail: and where frequent washing, the removal of dirty clothes, and fumigation with incense have been resorted to, it has on the other hand almost entirely disappeared.

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* This is fortunately always in the power of the surgeon.

† For this purpose, matts instead of beds or charpoys, had better be used.

I have little to add with regard to the cachectic species of the disease, which I have above alluded to; especially as I am not aware of any mode of cure likely to be successful, or indeed to afford any temporary alleviation. The discharge, though watery and frequent, is but little removed from natural feces; and at times it even possesses a considerable degree of consistence; yet notwithstanding so apparently favourable a symptom, the disease proceeds with an imperceptible but steady course towards a fatal termination. I am apt to think however, that it is almost entirely confined to very unhealthy situations; and I have always found it was only those of a very weak or previously broken constitution that were liable to its attacks.

CHOLERA MORBUS.

THIS disease has excited of late very general attention amongst medical men, and three reports have been drawn up regarding it, by the desire of the Governments of the different Presidencies. The descriptions in these however seem to vary in a very trifling degree from what we have received from the authors of the last century, excepting that it appeared to be created by a cause similar to that of a miasma, which travelled over the country, and never stopped but for a short time at one place. The danger of its attacks to all classes appears equally great, although the spasms which accompany it are very rarely to be met with amongst the lower orders, who are however much more liable than the others to receive the disorder. Dissection, I may add, has thrown no light on its nature, notwithstanding very great attention, I believe, has been paid to make accurate observations on the subject.

My ideas on the subject were adopted in 1817, before I had had an opportunity of witnessing many cases of the disease, merely in consequence of the accounts of it, and the various modes of treatment which had been successfully pursued, by the surgeons then attached to the divisions of the army, where it chiefly prevailed. Before the publication however of the Bengal General Report, drawn up by Dr Jamieson, I had ample opportunities of verifying my opinion, by actual practice amongst the natives; and I must here again remind the reader, that it is to the treatment of them that the following remarks are chiefly applicable.

I do not mean to attempt a theory of the remote exciting cause of this disease, or to treat of those which others have offered, as I suspect that even when it is found, it is not likely to conduct us to the means of decreasing its frequency, or of treating it successfully.

The proximate exciting cause appears to me evidently to be a poisonous matter, existing in the intestines; and I conceive that the circumstances in proof of this place it, not in the light of a theory to be overturned by every new opinion, but as a fact of which every one with an unbiassed judgment, who has witnessed its treatment, must feel completely convinced. To account for its existence is of little real importance; and although it follows almost necessarily from the above, that it is a morbid secretion in the neighbourhood of the parts, perhaps the gall-bladder, pancreas, or more probably the intestines themselves, still the ascribing of it to any of them is altogether unconnected with its actual treatment. It would be however completely contrary to the purport of this paper, and the brevity I have studied, to attempt to bring forward a mass of facts illustrative of the above, on which volumes might be written; and I must therefore appeal for the truth of what I have advanced, to every report or work of respectability which has been written on the subject,—a mode of proof which will, I am assured, be more convincing than the most powerful arguments which I could adduce.

To render my meaning however completely intelligible, let us first suppose that a poison, having effects intermediate between arsenic and opium, were lodged in the stomach, vomiting would in consequence be excited, but the intestines would either remain entirely at rest, or pain and obstinate costiveness would be produced. Were the poison however by some means placed in the smaller intestines, we should then create a disorder, in most circumstances exactly similar to cholera; and what is strange, the disease may be actually proved to reside in the smaller intestines, by the period of operation of purgatives, which would be either sooner or later in removing it, were it placed in any other part of the alimentary canal. Reasoning also from analogy, the excitement in this case of both the stomach and lower intestines would be extreme, while the portion in which it existed would be spasmodically affected, and apparently at rest. The whole *ratio medendi* is, therefore, to use the means in our power to make this matter move downwards; and it is found, that where this is effected for the smallest space, it is of itself quickly expelled, becoming probably innoxious in its way down, from the intermixture of the immense quantity of mucus that is at that time secreted.

I shall now take a general view of the medicines that have been made use of for its cure, consisting of calomel, laudanum, stimulating medicines of various sorts, and bleeding, to which perhaps we may add magnesia.

Calomel certainly claims for itself the chief place, from its success as a cure, which it effects merely from its purgative quality; and when it fails in this, it is found altogether useless. It has also been remarked, as I have before hinted, that when it is to operate as a purge, the cure is completed before the evacuation takes place; and if the time be marked, allowing the progress of the medicine to correspond with the time, or be equal through the whole canal, from the stomach to the rectum, it would place the disease in the middle of the smaller intestines. Calomel, although the best medicine in use, is liable to serious objections; first, from its being, of all medicines on the present list of purgatives, the most uncertain in its effects; secondly, it is also amongst the slowest in its operation, while, in so rapid a disorder, even a few minutes are of the greatest consequence; and, thirdly, though it possesses some advantages from the smallness of its bulk, and its specific gravity, yet its first action is to encourage that vomiting and extreme irritability, which, from its preventing the introduction of remedies, is the most perplexing of all the symptoms.

Laudanum and stimulating medicines occupy but a very secondary place compared to calomel, but still they have been partially successful, and their operations have a certain analogy to one another, since they both act by restoring the proper balance to the system, and by removing the spasmodic action, allowing the natural action of the intestines to propel the matter downwards. Laudanum, while it reduces the irritation, also acts in repressing the vomiting; it has little chance of success, however, unless given in the very first stage of the disorder. Stimulating medicines, on the contrary, have an action in the stomach similar to that of a blister applied to the skin, and therefore act by counter irritation, and are chiefly requisite in the latter stages, where depression has supervened. They are far less to be trusted to than laudanum; and where the disease is severe, they appear to hasten a fatal termination. Had the disease been occasioned by spasm, without any irritating cause, how different would have been the powers of these medicines, particularly of laudanum, which ought then to have been a complete specific! and can a stronger proof than their operation be adduced in support of what I have already advanced?

With regard to the mixture composed of laudanum with stimulants, the success attending it can only be attributed to the want of balance betwixt the two ingredients; a preparation un-scientific, and contrary to every principle of Materia Medica. How would the illustrious Harvey have been surprised to look forward to this day, when a composition of this kind has been so universally adopted; for even in his day it was known, that though two medicines, not disagreeing in their effects, may, when combined, have an action dissimilar to both; yet when they are directly opposite, they, like opposite powers, must destroy one another's properties!

Bleeding, though a valuable auxiliary in cases wherein Europeans are affected, and sometimes also amongst the better living natives, does not require to be considered by itself further than that it acts as the preceding medicines, in allaying the irritability, in restoring the balance to the system, and in assisting the action of purgatives.

Magnesia has sometimes, I understand, been made use of, and found partially efficacious;—its action must be first as a gentle purgative, and secondly perhaps as an antacid, depriving the morbid or poisonous matter of its dangerous effects. Some years since, I was led to make some experiments on this medicine. I found that it was dissolved in the intestines, and that it increased in its purgative qualities to a certain degree, in proportion to the acid existing at that time in the stomach, though I was then unable to reproduce it in its crystallized state, or to detect the acid with which it had combined.

It now only remains for me to give the simple treatment that I myself have adopted amongst the natives, with the reasons that have led me to it; and offering, as a proof of its unexampled success, that I have never lost a patient in the disorder. I commence with a strong dose of castor-oil, which is to be repeated in moderate doses every half hour, or perhaps less, until it operates. The vomiting is for the time prevented by keeping the patient's head low on the pillow, generally by assistants, while he himself is laid on his back. If this is done properly, the patient, in ninety-nine cases out of a hundred, will retain the medicine; but should this be found impracticable, and vomiting notwithstanding takes place, 30 drops of laudanum are given, and 30 at every succeeding vomit. The vomiting and purging generally cease soon after the medicine has been given, and the latter only returns at the time of its operation. The success attending this mode of treatment must be principally owing to the rapid action, and certainty of the effects of the castor oil, while it is a medicine more easily given to natives, and universally preferred by them to any other. As to the laudanum, it is merely given to stop *pro tempore* the vomiting, and as its action in other respects is prejudicial, rather than otherwise, by delaying the action of the castor-oil, the less that is required of it the better. When the medicine has operated, nothing further is required but attention to the bowels, which are almost always irregular when the disease has been severe, for some time afterwards,

OPHTHALMIA.

The disease I am about to describe is chiefly confined to the Hindoos, and is more frequently met with in jails than in corps, though instances are far from uncommon in both. The simple disorder is far from being so general as in Europe; and probably, when it does occur, it will be found to be endemic. That which I allude to commences with extreme pain in the eyeball, irritability, and all the other symptoms of inflammation in that organ. On the conjunctiva, the vessels are extremely enlarged and thickened; and as the disease advances, which it does extremely slowly, these blood-vessels assume the appearance of a solid membrane of considerable thickness, covering nearly the whole of the eye. The patient's sight becomes affected, while the pain continues unabated, often extending over the whole head, almost totally preventing sleep; and all medicines to relieve it are scarcely sufficient to afford the sufferer a temporary abatement of the agony. A crisis at length ensues; the cornea swells and ulcerates, when the pain gradually decreases; but unfortunately the disease in three cases out of four, having rendered the one eye useless, attacks with nearly equal virulence the other. It occurs far more frequently than is generally supposed, and is the cause of the immense number of blind beggars which are met with in this country; cataracts, and other diseases of the eye, bearing a very small proportion to this. Having had good opportunities of observing this disease, I have reason to be of opinion that it is not contagious; that it is chiefly induced by low living; and that, therefore, it is most commonly to be met with in times of scarcity and famine.

The application of caustic, of topical bleeding by cutting the blood-vessels or membrane, I have found useless, as well as the antiphlogistic treatment in all its branches. This remark, however, only refers to my experience of the disorder in the jails; not when affecting the higher classes, as I have never had an opportunity of treating cases where it affected them from its commencement. All washes also applied to the eye, such as solutions of opium, narcotic poultices, &c. are equally inefficient, if unaccompanied by a corresponding change of diet. To this I at length resorted; and by feeding my patients on strong animal broths, &c. and applying solutions of opium, or cicuta poultices to the eye, I checked, in almost every instance, the disease in its incipient state. Perhaps the puncturing the conjunctiva in severe cases, with the constant use of emollient poultices, might prove the most successful mode of treatment.

INTERMITTENT FEVERS.

These are much less frequent in this country than is generally supposed, being confined to those parts of the country where that particular miasma is prevalent, such as the foot of mountains, the vicinity of large jungles, particularly of grass, and where a light soil rests on an impervious clay subsoil. The tertians are the most common; the quartans less so; and the quotidians, if such exist, in no respects differing from the jungle fever, must be considered under that head. There is no disease where the affections of the mind have a stronger power than in this; and when a person has once been predisposed to it, I have known the sight of another in a paroxysm, of itself induce a similar attack. By itself it is never fatal, though extremely difficult to remove; but it is apt to undermine the constitution, and to lay the basis of many and more serious diseases. The symptoms differ in little but degree from those observed in Europeans. A paroxysm, however, may be anticipated even before it is denoted by either the pulse or sensations of the patient, by the feel of the skin, which is peculiar, and communicates to the fingers the sensation as if a number of indefinitely minute points of cold and hot were mixed together. The disease generally intermits of itself after a month or six weeks, and recurs again at longer and shorter intervals; but even when labouring under it, the patient, except during the paroxysm, is often perfectly fit for his duty whatever it may be, though generally weak and languid.

The treatment of this complaint is still involved in considerable obscurity; and notwithstanding the attention that has been paid to it, and the volumes written regarding it, few of the remedies which have been proposed have borne the test of experience. Purgatives are extremely useful, and indeed absolutely necessary, as auxiliary remedies; but by themselves they appear to be of no service. Tonics are certainly often of use, particularly the bark and chyritta, whose curative powers seem about equal; but unless the patient be taken from the sphere of action of the virus, no benefit can be expected from them.

Where these fail the nitric acid will be often found successful, provided purgatives, gentle but long continued exercise, and removal from the situation where the disease was caught, be likewise resorted to. As to the white oxide of arsenic, I have never found it useful, although no bad effects were the result of its exhibition. I have already stated my opinion regarding diaphoretic medicines, under the head of Dysentery; and if my reasoning be there correct, they must here serve merely to derange, in a greater degree, the stomach and bowels.

I believe I differ from the common opinion regarding the expediency of cutting short the paroxysm by the cold bath, having never found it of real benefit, instead of which the succeeding paroxysm was considerably stronger, and came on at an earlier hour. The object of the surgeon ought, I conceive, to be, to keep off the paroxysm as long as possible, but never, as in remittent fevers, to meddle with it when it is once fairly begun. The common remedies to effect this, are emetics, tonics, stimulants, and narcotics; and by running the changes upon these, the practitioner's efforts are often crowned with success.

REMITTENT FEVERS.

No fever in this country, whether affecting natives or Europeans, is contagious, not even in those cases where the latter are attacked with all the dreadful symptoms of the bilious remittent or yellow fever in its most destructive form. Amongst the natives there are two species of remittent fevers; the first of which, for the sake of distinction merely, I shall denominate Simple Remittent, and the other Miasmatic Remittent.

Simple remittent occurs in all parts of the country, particularly in those places where the intermittent fever is not to be found. It is produced by all the causes except miasma, which generally occasion fever; is mild in its attack, and never in any instance which I have met with, is of itself a fatal disorder. It is either quotidian or tertian, but most commonly quotidian; and it never assumes an intermittent form. The tongue is either furred or glazed; often however brown and furred; when of a glassy white appearance, it is generally connected with affections of the spleen. Costiveness is the common cause, and constant attendant on it; and it often requires little more than an opening medicine to remove it. The paroxysms are far from being so regular as in the intermittents; nor can one judge properly regarding the violence of the attack, by the length of time the cold or hot fit lasts, except by attending to the state of the pulse during the intermission.

The treatment consists in administering, if possible, an emetic on the commencement of the fever; for afterwards it produces no good effect; and following it up with the drastic purgatives, until the feces become natural. It is immaterial what purgative medicine is given; but the surgeon ought to bear in mind, that evacuation alone is not what is required, but the excitement and increased discharge of all the natural secretions belonging to the intestinal canal. Tonics are always hurtful during the time the fever lasts; and when it is removed they are generally unnecessary. As to cold bathing, when purgatives are freely used, it will be found extremely beneficial; the hot fit ought however to be well formed ere it is adopted; for on its application too soon, the cold rigors are often apt to return again.

MIASMATIC REMITTENT.

THIS fever is fortunately confined to those situations where intermittents are prevalent; and at the seasons when they occur, most of the fevers assume the same type. In none of the symptoms except in violence and in liability to a fatal termination, do they differ from that which I have just described; nor do they almost ever terminate in intermittents. This therefore cannot, I should suppose, be conceived a distinct species of fever, but a mere modification, on account of the cause promoting it, of the other. It may prove fatal either after about the third paroxysm, on the complete cessation of the fever; or from dropsy or other complaints subsequent to it. The first is most common; and as there are but few symptoms then denoting its fatal tendency, the disease requires to be watched with a most attentive eye; for if the change of treatment does not correspond immediately to the change of symptoms, the patient will infallibly sink. The violence of the paroxysm is not always so characteristic of the strength of the fever, as the disordered state of the functions during the intermission. When this is great, there is a sudden sinking about the third paroxysm; and, if remedies be not then speedily applied, the patient is dead before he is suspected to be in danger. Even after he has survived this, and the fever has been gone for some time, he often sinks without almost any complaint; while at the same time, dropsy is much more liable to occur after a violent attack of this fever, than of the one which has just been described. At the commencement of the cold season this fever is uncommonly severe, and the recovery to perfect health extremely slow. The first part of the treatment consists in topical or general bleeding; and not only the evacuation of the bowels, but the continued excitement of the secretions by drastics combined with other purgatives. Calomel, gamboge, scammony, extract of jalap, colocynth, &c., when worked off with castor-oil, are the best for this purpose; but if the calomel is given to affect the system, and not as a purgative having a superior effect in stimulating the liver, I must assert that its use is more deleterious than useful. I cannot help here adding the remark, which is as applicable to Europeans as natives, that those who have been in the habit of taking most of this medicine, are the most liable to attacks of fever. Jumulgota, or the nuts of the Jatropha multifida, are in considerable use as a purgative; but in whatever mode they are combined, the irregularity and violence of their action render it one of the most dangerous of medicines. Should the crisis I have mentioned take place, the drastic purgatives must be immediately stopped, and the others used only to keep the bowels open. Tonics and stimuli, which before would have been hurtful, must now be given with a liberal hand; and indeed our whole reliance must be placed on them. I am in the habit of giving the chyritta in the form of tincture, every half hour, bruised seeds of chillies, &c.; and since I adopted that plan, I have not lost a single patient in this stage of the disorder.

After this, a long period elapses before any sign of amendment takes place; and as I have before remarked, it is by no means unfrequent for casualties to take place in this stage without any assignable cause. The practitioner will find however that by the use of gentle purgatives, and the mineral acids, particularly the nitric, to which I must add what is of more value than either, gentle but often repeated exercise, he will be completely able to guard against such an occurrence. He must be deaf to the entreaties of the patient, and the clamours of his friends; and unless dropsical symptoms come on, the patient is to be made to use his limbs even if it is necessary to support him betwixt assistants; for nothing can be more fatal than the apathy subsequent to such violent attacks.

HYDROPHOBIA.

This disease is peculiarly common in this country, owing to the immense number of pariah dogs, without masters and but poorly fed, and to the myriads of jackals with whom it is probable that the virus generally originates. The small species of fox, being also in considerable numbers, it is probable that the virus may at times be produced by them, though no instance of the kind has, I confess, yet come to my knowledge. Two and three months are the general periods of its lying dormant in the constitution; and I have never seen the disease appear after the fourth month, though such may doubtless be the case. Very few of the natives being aware of its fatal effects (which is rather strange, considering its frequent occurrence), a case of spurious hydrophobia must be extremely rare. In a Sepoy corps however, where from intermixture with Europeans, they have become sensible of their danger, there is now a Havildar, who, having been bit, became a complete idiot from the apprehension of the disorder. Owing to this ignorance and apathy on the part of the natives, it is almost impossible, except in a corps, to induce them to submit to a plan of treatment for eradicating the virus, or neutralizing its effects. Even after the disease has shown itself, it is rare indeed that the patient is brought to the hospital until the third, or generally the fourth day, when, of course, any new remedies that may be attempted have but a very diminished chance of producing the desired effect. The symptoms are far from being so violent as among Europeans; nor does the disease perhaps ever assume that horrid appearance, which a person who never witnessed a case must figure to himself from the description he has received of it from authors. In all those that I have seen, the patient did not appear to suffer much pain, with the exception of a burning uneasiness about the breast and stomach, which I believe to be a never-failing, as well as the most distressing of the symptoms. In one instance, where the disorder was particularly violent, in a stout young man, the skin was completely inflated with air. I have never, however, seen a case resembling it. In another, the symptoms were so slight as to be for a time mistaken for, and treated as fever; the pulse, tongue, and skin, had indicated that disease. The patient is generally partially sensible, until towards his last moments, and seldom appears to expire from exhaustion.

The treatment of this singular complaint ought to be considered under two different heads—the prevention and the cure; nor can there be any well grounded reason assigned, why both are not placed within the compass of human efforts. Excision, for instance, if immediately resorted to, has a tolerably certain effect in preventing the disease; though, from the remedy being but rarely resorted to at the moment, it is necessary to look for others, which may be useful at later periods.

I must here make an assumption, though averse to theory, that the virus is not propagated through the nervous system, which appears now to be a favourite mode of accounting for disease among moderns; and certainly it has this advantage, that, though we may disbelieve it, no proof to the contrary can be brought. Conceiving, however, that it may be transmitted through any other component part of the body, some indication of cure, or a preventive, may be found out; whereas, if we refer it to the nerves, no rational one can ever be expected. A vast number of medicines have been extolled as preventive; but sulphur appears to have been attended with the greatest success.

Is it unreasonable to suppose, that all the mineral preparations which are found to affect the general constitution, when they are given so as to accomplish this, will destroy the virus in its dormant state? Of medicines of this kind we have the salts of lead, copper, arsenic, antimony, mercury, sulphur; to which we may perhaps add the mineral acids. Of these, the three first, from their poisonous qualities, are nearly out of the question; the effects of the fourth on the constitution are questionable; so it is with those that remain that we are to prove the truth of the theory.

With regard to myself, I have only been in the habit of putting the persons under a gentle course of mercury; and in no instance, after having done so, have they been seized with symptoms of the disorder.

I early formed an idea that one of the following three means would be found a cure for hydrophobia, viz. injection of blood, mercurial fumigation, and electricity.

It is evident that the first would likely have succeeded, had the blood alone been in a morbid state, and could that fluid be withdrawn almost entirely, and replaced with healthy blood from some other animal. With respect to mercury, if it could be given so as to affect the system, (which has never yet been properly accomplished), I thought it probable that the animal *virus* might be either destroyed, or rendered inert. With regard to electricity, as its action must only be through the nerves, its beneficial effects must at best be problematical; nor should I now be induced to place any dependence upon its virtues. With the first patient I had, I tried fumigation in the European mode, which is scarcely more efficacious than a larger quantity of blue pill or calomel. It was the fourth day of the disease, and he came to me about noon. Calomel in great quantities, and drastic purges, were given, as well as ether, to relieve his breast, and a large blister was applied to his neck; but though he had walked about a mile to my house, he expired in one of the paroxysms towards evening. In another case, which was brought to me on the third day, I attempted injection of blood, from the jugular vein of a sheep, after a quantity of blood had first been taken from the arm; however, owing in some measure to the hot winds then blowing, I found it impossible to make the blood flow into the vein from the tube. I then fixed the ends of a wax injecting syringe, one into each vein; but in consequence of their smallness, I found it out of my power to proceed, from the rapid coagulation, and was at length obliged to give it up, after having placed on it the greatest confidence. This man, after having been bled as far as could be done with safety, died on the fourth day calmly and easily. The next patient I had, expired as an electrical battery was preparing for him; but the succeeding case will, I am convinced, notwithstanding its ill success, be read with considerable interest, by almost every practitioner.

MITTEE, an hajamm, or barber, aged about 18 years, was bit by a mad dog on the 25th of October, which was seized with a convulsion on observing the water near which he was standing, and turned about and bit him on the hip. About three hours afterwards, he came to me and had the part burnt with a hot iron. I intended to have put him under a course of mercury; but though desired by me to come daily, I never saw him until the 1st of December of the same year, when the symptoms of hydrophobia had commenced. On inquiry, I found he had first been taken ill on the 29th ultimo, when at dinner; that he had then called out that he was gone mad, and from that time he had only been sensible at intervals.

All I could get from himself was, that he had gone mad, and that his breast was on fire, striking it at the same time with violence. I gave him some water in a spoon, which he swallowed with the utmost difficulty, gulping it down; and complaining of great pain. I could not, however, prevail on him to take a third spoonful. His pulse was at this time very small and quick, and his strength greatly gone, for he could not stand without support.

Although I had little chance of success, with any treatment, considering the late period of the disorder in which it was attempted, I decided on making trial of the fumigating plan in the Hindostannic mode, by means of the hookah, by which the system can be affected in sometimes less than twenty-four hours, from even a moderate use of it; and being well aware that there was not a moment to spare, I determined to carry it to the utmost without a dread of the consequences. The operation was commenced about ten o'clock, and at first it was with some difficulty we got him to inhale the vapour; but it was at length accomplished by holding his nose and mouth, and only giving him a little respite when suffocation was dreaded. I found it necessary to take away the hookah bottom, as the sound of the water annoyed him, and prevented in some measure his receiving the proper quantity of the fumes. A double dose of the jatropha multifida was given as a purge, which is one of the most violent we possess; but from the difficulty in opening the bowels of those in this complaint who had been my patients, I did not consider this too much. Another reason also impressed me with its necessity, viz. the consideration of some of the accounts of tetanus with which this disease has certainly a considerable affinity, and where the affection is sometimes kept up by a morbid matter in the intestines, which gentle purgatives, though they operate, will not remove. This matter eventually comes off, of a dark colour, and extremely offensive, after a very powerful drastic purgative, when all the symptoms gradually give way of themselves, and the patient ultimately recovers.

Twelve ounces of blood were taken away, which was merely intended to assist the mercury in affecting the system. At one o'clock he had two black copious stools passed involuntarily, while the pulse had gradually become scarcely perceptible. He appeared to be sinking fast, while the disorder continued unabated. The smoking, however, was continued nevertheless, with only interruption sufficient to prevent suffocation from it, as well as from the phlegm which annoyed him very much. He was now perfectly insensible, and never attempted to move except during the paroxysms, which still returned every few minutes. At three o'clock a shivering fit came on, and he appeared expiring. The fumigation was immediately stopped; and to our surprise he fell into a sound sleep, from which he only awoke about five o'clock, perfectly easy as to his breathing, but quite insensible, and the pulse not to be felt. He drank water now with ease, and had no return of the paroxysms; but when the fumigation was resorted to, it had quickly to be stopped, from symptoms of dissolution taking place. He had several loose involuntary stools, and about 8 o'clock again fell asleep; at which time it was supposed his gums were affected, from their colour being somewhat altered. He remained in this state for four hours, when without awakening, oppressive breathing came on, and he expired without the slightest convulsion having been observed since the time the shivering fit first came on.

A case such as this, under so very unfavourable circumstanstances, affords me strong hopes, that should the patient be brought in proper time, a cure may be accomplished; and I feel confident, that this or some other remedy will soon be found, which may prove successful in at least some cases of the disease. Query, Is opium a cure for hydrophobia? The only mode of trying it is by inhaling the fumes, since it does not appear to have any narcotic effect upon the stomach. If in this way any of its virtues can be obtained, it might assist the action of the mercury, and alleviate the violent spasms to which Europeans are subject when afflicted with this disease.

SPURIOUS ASTHMA.

THIS disease is very common in jails, &c. and is the result of sudden stoppage of an habitual portion of opium. It is principally confined to the lower provinces, where the natives indulge to the greatest degree in this drug; indeed perhaps their degeneracy may in some degree be attributed to it, from the intellects of the infants being in part destroyed by it. The patient is seized with extreme breathlessness, with all the symptoms of asthma; the countenance being haggard, the pulse rapid, and the eye such as we should expect to find in a patient affected with phrenitis. The thirst is considerable; and if the disease is not relieved, it proves fatal in the course of a few hours. Some opium given in time will immediately relieve all the symptoms.

The natives have an idea, that the use of this drug is a preventive of fevers and dysenteries; but I feel assured that the reverse of this is the case, and the surgeon ought, notwithstanding the disease I have described, to prevent its introduction into jails. As an additional support to what I have stated, I cannot help adding that as the prisoners' allowances are barely sufficient to procure food, if a part of it is squandered away in this manner, what are we to expect but that the hospitals should be crowded with diseases of every description?

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Before concluding these short essays, I beg to add a few remarks explanatory of the mode in which I have conducted them, and my reasons for their publication. As to the first, my studied brevity, difficult as it has been, proceeded from a conviction that medical science in general would be greatly furthered by more conciseness in medical writing; and though I have not the presumption to suppose that my plan will be followed by others, yet I feel that pursuing the mode in use, would be to sanction a system contrary to my own judgment, and one which I am convinced a future generation will condemn. My opinions are some of them new, and many are at variance with the general practice. No unusual mode, however, has in any instance been attempted, except where ill success had reduced me to that necessity. Many of them may be crude; but I conceive I am doing more real good in presenting them in their present state to the public, than by waiting to complete them in a climate where existence is so uncertain, and where medical men possess no beacon to guide them on their first arrival in this country.

VII.

Remarks on the Treatment of Incised Wounds. By James Syme, Lecturer on Anatomy.

Any proposal at this time of day to alter the method usually followed in treating incised wounds, may be regarded as unnecessary and presumptuous. British surgeons, I know, pique themselves upon the excellence of their practice in this respect, and will hardly be induced to abandon the old established customs in which they have been educated. But as all improvement would be at an end were such considerations allowed to silence the voice of conviction, the following remarks are, with all deference, submitted to the public.

When it was the fashion of those who practised according to rule, to treat all wounds however simple and disposed to heal, with an elaborate succession of so called—mundifying—digesting—incarning and cicatrizing applications, most of which were more or less escharotic in their nature, but at all events effectually prevented by their presence, any union except that established by granulation—it is no wonder that the results of a very different plan followed by quacks, old women and other irregular practitioners, who trusted entirely to sucking the wound—balsams applied externally—and incantations—made a deep impression upon people in general; and even the members of our own profession, who were at length induced not only to learn the proceedings in question, but also to adopt them for the benefit of their own patients.

The success met with was great beyond expectation. It was discovered that wounds could be healed much more simply than had been imagined—and union by the first intention became so favourite an experiment with the learned as to afford subject of ridicule to the vulgar.

Many succeeding anatomists and surgeons have investigated the action concerned in the formation of primary union. But it is odd enough, that while our ideas have been gradually becoming more and more enlightened as to the process of simple adhesion, our practice has suffered little alteration, and still continues to be tinctured with much superstition and barbarism.

Every incised wound whether accidentally or intentionally inflicted, after being dressed according to the surgeon's fancy, is bound up with a long bandage tightly and curiously turned.

And although the patient soon complains of heat, pain and oppression, all his intercessions for relief are of no avail; the bandage must not be disturbed until the morning of the fourth day, when the long wished for, much dreaded dressing is to take place. Now it is easy enough to understand why the quacks of old tied up their patient's wounds for a definite period. They wished to keep at a distance the injurious applications so much confided in by the regular faculty; and for this purpose pretended, that their balsams and incantations could work successfully only in secret,—at the same time prudence dictating the propriety of restraining anxiety and impatience no longer than what was absolutely necessary, while experience taught them, that union by the first intention, if it happens at all, does so within three days;—they fixed upon this as the term of their mysterious process.

But *we* know that adhesion depends on a peculiar living action,—not upon the virtues of balsams or superstitious observances; and why then do we still obstinately defer the second dressing of wounds until the seventy-second hour after their infliction?

It may be said by those who do not feel prepared to answer this question, the practice succeeded of old, it does so now; and we are satisfied without troubling ourselves in seeking for reasons.

But is the practice really successful? Does the surgeon uniformly or frequently find, when the dressings are first undone, that the wound is healed? To both questions, I answer decidedly in the negative.

When the surgeon with his apprentices, the patient with his friends, are all assembled together on the morning of the fourth day, an anxious and painful scene ensues. Plasters and bandages, warm water and sponges, being duly prepared, the bandage is cautiously undone—no easy matter frequently, when dried blood has glued its different crossings together, and fixed the pins into their places—then compress by compress is taken away, until the wound lies exposed to view—when the surgeon and bystanders sometimes flatter themselves that it has united by the first intention; but a gush of fetid pus for the most part soon puts an end to their premamature congratulations. It more generally happens, however, that the pus having separated its lips, lies in considerable quantity between the wound and plaster immediately superjacent. In both cases, it is plain, that the corresponding surfaces, instead of being united by primary adhesion, must be as completely detached as if caddis had been, *more Gallico*, interposed between them. Indeed the French practice is much more prudent than our own; for laying their account with the formation of pus, they provide a drain for its discharge, and thus prevent the formation of those artificial, frequently extensive and undermining abscesses, which so often result from injudicious attempts to obtain adhesion by the first intention.

That in this description I have not made matters worse than they really are, will be allowed by all who have seen much operative practice. Many students have assured me, that in the whole course of their hospital attendance, they never saw an instance of union by the first intention,—except in cases of cancer or hair-lip, and venesection. And I have ascertained that some do not know what is properly meant by this term, saying for instance, that a stump which got well in the course of three or four weeks without sloughing or exfoliation, healed by the first intention, though it may have been suppurating freely all along.

As to the success which is said to have attended the close system of dressing, when employed long ago by the quacks, I am inclined to think that there is much allowance to be made for the exaggeration of historians accustomed to the cruel, tedious, and injurious practices of men, who, though very learned and well meaning, certainly were no surgeons. But at the same time I do believe, that union by the first intention happened more frequently in the days of Taliacotius than it does at present—for the great, I may say infallible preventive of adhesion, I mean adhesive plaster, was not then invented. I do not mean to say, that a narrow strap or two placed across a long wound will certainly oppose its union by the first intention—but I do maintain, that if the straps be applied properly, that is, in an imbricated manner, as botanists would say, or one overlapping the other, so as to cover the wound from end to end, the surgeon may rest perfectly satisfied, that in all human probability a goodly abscess will be formed within the statutory period, viz. three days. *

Blood being effused from the raw surfaces, and having no opportunity of escaping, causes separation and distension. Adhesion is consequently prevented, and the parts are roused to a stronger action; then the patient complains of pain and heat, with thirst, and all the other symptoms of fever—pus is formed and the abscess is completed.

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* The diagonal and longitudinal straps which it pleases some surgeons to apply, over and above, I am inclined to consider unnecessary and wasteful.

It is not necessary for the prevention of adhesion, that *blood* should be effused, since the uniting action is always for the first day, and part at least of the second, attended with copious discharge of thin serous matter, which acts quite as effectually in preventing the surfaces from adhering, that is to say, if they be of any considerable extent; for in very small wounds primary union happens, do what we will to oppose it.

This copious and continued discharge of serous fluid during the adhesive process, is what I am most anxious to impress upon the reader; for if it be kept in mind, there can be little difficulty in perceiving why the sealing up of wounds should be the most certain means of keeping them open, or in determining as to the best means for conducing to a different result.

It is plain, that in the first instance no effort should be made to close the orifice completely—that pressure should be directed to the bottom rather than the outlet of the wound—that blood should not be allowed to crust over the lips—for though blood may be the best, that is the least hurtful balsam, I have often known it confine the serous discharges, and so prevent union—and that the orifice should be wiped and kept dry as long as it exudes any moisture.

For fulfilling these indications, I would recommend in the first place, that when means are required for keeping the cut edges in contact, stitches should be preferred to adhesive plaster, since their effect is exerted at considerable depth, while they offer little or no resistance to the exit of fluid. Some surgeons employ stitches and plasters together, but this plan I dislike; for plasters acting only on the surface, always tend powerfully to close the lips, or even turn them inwards, while they not only effect no deep pressure, but even render the parts concerned more loose and disposed for the formation of sinuses; and stitches, if put in close enough, may always be rendered equivalent to the requisite contraction. It may be noticed, however, that a little gaping of the edges is by no means hurtful in the first instance, since it ensures a thorough discharge, and is rectified as soon as adhesion begins.

Secondly, I would advise the disuse of all long, complicated bandages, which cannot be tightened or slackened in part, and removed without disturbing the patient.

Compresses having been laid along the sides of the wound, it will be easy to effect pressure by very simple means, independently of long circular rollers. For instance, in wounds of the trunk, what can be more powerful or manageable than a broad piece of linen, but long enough to cross a little over the breast, and having its two ends torn longitudinally into three or four portions, any one of which may be tightened or slackened as occasion requires, while the whole may be thrown back at a moment's notice?

For wounds of the extremities, a similar bandage, on a smaller scale, will answer equally well; and as for stumps, I beg to recommend a very simple contrivance, that has often saved me much trouble. A roller having been put on as usual, from above downwards, until it has come within a few inches of the stump, it should be fastened away; and then a few narrow strips of cloth being pinned or otherwise attached on each side, nothing remains to be done but tying them to each other across the face of the stump.

Lastly, I would advise that the surgeon should apply dry caddis over the wound, as often as the least moisture is perceived.

If these directions be observed, I feel satisfied, from my own experience, that union by the first intention will become an ordinary occurrence. And of how much consequence this is in all cases of wounds, but particularly in such as are complicated with fracture of bones, surgeons need not be told by me.

6, *Forth Street*, 1*st June*, 1825.

VIII.

Case of Diffuse Inflammation of the Cellular Tissue, supposed to arise from Dissection. By ROBERT WISEMAN, Surgeon, Cupar Fife.

A D. W., æt. 25, of full habit and healthy constitution, assisted at a dissection upon the 24th of November. The subject had been a young woman, who was cut off, a few days previous, by puerperal fever.

Nothing peculiar was observed in the general condition of the body, no precipitancy of decomposition, to account, in any wise, for the effects which followed.

He had then an abrasion of the cuticle on the back of one of his hands, but so minute as almost to escape detection, when examined with that purpose. Two days elapsed before any inconvenience was felt; but upon the third, a chilliness and tendency to rigors discovered itself, which he then attributed to the circumstance of having changed his bed-room the preceding night. The hand also was somewhat inflamed; and the scratch, thus made more conspicuous, continued in a festering state up to the 29th, when it assumed a less irritable aspect, and gradually healed.

Upon the 29th, however, there was a recurrence of febrile symptoms, which had been considerably abated during the two preceding days; these being now accompanied with headach, he applied a few leeches to the temples, with the effect of removing it. For some nights about this time, there was a periodical return of rigors, and he was much annoyed with pervigilium. About the 30th he first felt a tenderness in the axilla of the same side with the affected hand. It had existed two days before he examined the part, and was so slight that he recognised it only at night, when attempting to rest upon that side. Upon examination, its origin was discovered in a small gland, which was hard, and gave pain on slight pressure. This circumstance first excited an apprehension of the febrile symptoms being referable to the local affection; especially as they occurred in conjunction with an unfavourable report of another case, which apparently originated from the same source. As, however, I understand that my friend Mr Malcolm intends laying an account of this case, along with some others, before the profession, I shall merely state, that a woman, who had rendered assistance during the dissection already alluded to, had been also similarly affected, and was then *in articulo mortis.* He continued, up to the 8th of December, progressively getting worse, but still in some manner able to attend to business. The arm had now become very stiff and painful, with considerable swelling extended over the shoulder. The sore on the hand, however, was nearly whole; and between it and the axilla there was no appearance of intermediate disease, unless we were to characterize as such a small pustule near the elbow. From the axilla, the disease spread in every direction, and left, in its route, a general puffy swelling, without any evident fluctuation. It proceeded, again and again, over the same tract, and when vigorously attacked with local depletion, slowly retreated to the axilla.

There was, once or twice, a metastasis of pain to the inferior extremities, and throughout, much functional derangement prevailed in the bowels and kidneys. The tendency of the latter to the formation of uric acid was great, but, depending on the free acid of the stomach, was always controlled by an alkali.

The disease continued in an alternately retrograding and advancing state for nearly two months and a half, during which time he was confined almost entirely to bed, oppressed with extreme irritability and distracted with acute pain. The brain also wavering in its allegiance to our material constitution of things, occasionally aggravated the real by imaginary evils.

The first favourable change of the disease, was announced by a most profuse perspiration ; so profuse indeed, as to outdo any previous conception I entertained of the greatest possible extent of general cutaneous discharge. The momentary impression certainly was an immediate sinking of the powers of life. The perspired matter was cold, clammy, and peculiarly loathsome. Sweats, however, of a more natural order succeeded, and in about three days afterwards the swelling under the arm in the neighbourhood of a point, where a caustic issue had been inserted, bore evident marks of a contained fluid. The sac communicating freely with the surrounding parts quickly increased, and a large quantity of healthy looking pus was discharged. By pressure, the extent of communication was found to occupy a great part of the region of the pectoral muscle on the one side, and to extend near the spine, over the scapula on the other,—a decreasing discharge continued nearly three weeks, during which time, the fever gradually abated, and the strength was afterwards rapidly restored.

The accompanying fever was evidently depending upon nervous irritation, the pusle was small, quick and wiry, and the senses were a remarkable index of the general excitement. An extreme acuteness to external impressions marked the first stage, and this state verged by insensible gradations to that hallucination of intellect, which confounds our ideas with their prototypes, and jumbles together imaginary with more permanent existences.

I conceive that the most efficacious remedies were those directed to the seat of the complaint. Topical bleeding, fomentations, blisters, and escharotics, were all either attended with relief or evident advantage. General bleeding induced dyspnœa and seemed less efficacious than the local detraction. Anodynes were of much use, and when difficult to be retained in the stomach, the application of their effluvia to the surface of the lungs was found to be convenient and efficacious. Small doses of saline cathartics, conjoined with diaphoretics, were also attended with much advantage, and latterly the use of the cortex cinchona was evidently very beneficial. An alterative course of mercury was tried but without apparent good effects.

1825. May 4th.—The arm is still limited in its natural range of motion, and there appears a considerable loss of substance in the parts under the armpit.

The two following cases, in some respects analogous to the preceding one, have been selected to show, that there probably existed in the district at the time of its occurrence, a tendency to diffuse inflammation ; and as cases of typhus fever, and aggravated ones of rheumatism and erysipelas were by no means rare, it seems probable, that an epidemic constitution of the atmosphere may have so far operated as to modify in some measure the accustomed phenomena of disease.

Ann Steel, æt. 45, of a lean habit and generally healthy, was taken ill about eight weeks ago. First felt tired and generally sore, which was followed by shivering in the night-time, and severe pain under the arm. Chamomile decoctions suddenly removed the pain farther down, from which it extended in the course of five or six days over the whole side backwards nearly to the spine, and foreward as far as the haunches.

From the whole of this extent, an immense discharge has since taken place. The skin in general appears to have been sound, and the disease confined entirely to the cellular membrane.

Janet White, æt. 54, of dyspeptic habits, upon Christmas day noticed a sore upon the ring finger of her right hand. Supposes she had burned it with sulphuric acid, having then spilled a phial of that article in her press. Four red lines, two on each side, were seen extending in the course of four days to the elbow. Pain in the axilla, side and back, occurred simultaneously.

The finger suppurated in the course of twenty-four hours, and was whole in ten days. The pain, however, never left the axilla, and glandular swellings extended all round it. She was five weeks in severe pain, accompanied with a strong fever. Suppuration at length took place under the arm, and extended to a considerable extent along the cellular membrane, after which she recovered rapidly and is now quite well.

Cupar Fife, 4*th May*, 1825.

Note by Dr Duncan, *Junior.*

I have been indebted to the attention of Dr Aitken for an opportunity of seeing another severe example of this disease, which occurred in one of his pupils, from a slight puncture in dissecting the body of a female who had died of *peritonitis*. It is remarkable, that the body had been previouſly immersed some time in spirits. The inflammation, as usual, affected the subcutaneous cellular membrane of the pectoral, scapular, and cervical regions of the side punctured. It was treated chiefly by active leeching and warm poultices, and terminated by a copious discharge from an opening made in the side, at the edge of the *latissimus dorsi*. The young gentleman left Edinburgh some time ago convalescent, for the benefit of his native air.

IX.

A Letter to the Chairman and Deputy Chairman of the East India Company on the Cholera of the East Indies. From SIR GILBERT BLANE, M.D.

GENTLEMEN,

ABSENCE from town and urgent business have prevented me from acknowledging sooner the receipt of your letter, together with the report of the Medical Board of Madras, which you did me the honour to send me on the fifteenth of last month.

Though I almost despair of throwing any farther light on this obscure but very important subject, I must not decline offering such remarks as occur to me regarding it; for though I have no actual observation or experience of the Cholera of India, my public duties have led me to bestow much time and attention on the subject of contagion in general.

I begin with congratulating you on the high professional talents of your medical officers in India, which have never been more conspicuously displayed than in the great ability, candour, zeal, and unwearied diligence observable in the late Report from Madras. It is therefore with all due diffidence that I venture to make any comments upon it, in which I shall confine myself to the question regarding its * infectious nature, and whether on any occasion means preventive of its spreading can be available.

1*st*, The first remark I shall make is, that those who advocate the opinion of non-contagion, appear to me to lay too much stress on the circumstance of great numbers escaping the disease, who have been exposed to it by the near approach or contact of the sick; for it is well known in the history of contagion, that in consequence of the great variety of the predisposition of individual constitutions, this is the case more or less with regard to every species of contagion; and, indeed, if this were not the case, the human species would long ago have been extinct, through the operation of pestilential disorders.

2*dly*, My next remark is, that it does not seem to me that those who have argued this question have been sufficiently aware, that whatever weight may be allowed to the above-mentioned argument, it militates much more forcibly against the supposition of aerial influence; for in this case, and in conformity with this argument, not a single human being could escape, inasmuch as every living creature must breathe the external air, whether pure or contaminated; whereas it is easy to conceive, that if the noxious principle resides in the morbid emanations of the human body, great numbers may never come within the sphere of them, either by contact or approach. *

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* The Medical Board of Madras state, that a difference of opinion existed among the Medical Officers of the Presidency, on the question of infection; but they advance no opinion of their own on this subject.

3*dly*, I have next to observe, that there does not appear to have been sufficient importance annexed to a circumstance which, I apprehend, may be considered as a satisfactory criterion for discriminating contagious, or what are technically called *Epidemic* diseases, from those depending on the state of the soil and air called *Endemic*. It is this, that if any disorder affecting a whole community arises from some noxious principle in the soil and air, it must, in the nature of things, attack *simultaneously* all who are exposed to it; whereas, if it proceeds from any morbid principle generated in the human body, its attack will be *progressive*; a certain space of time being necessary for it to pass from individual to individual, and still more from one region or community to another. I ask, if it is reconcileable to reason that this disease could have advanced gradually from Bengal, where it first appeared in September 1817, † to Bombay, which it reached about twelve months afterwards, following the track of the grand army in the commencement of the Pindarree war, through any other medium but human intercourse? for, from the length of time, and the prevailing westerly monsoons, this is not reconcileable to an atmospherical cause. The whole history of the disease is an exemplification of the same process, as may be strikingly illustrated also by the latest accounts we have had of its progress from India through Persia to Syria and Astrachan, by the line of the caravans which conveyed it to these countries last year. Can any thing be more inconceivable, or more repugnant to the plain good sense of the most ordinary understanding, than the idea that this could be effected by any quality of the air, or exhalation of the soil, either following these tracks, or generated in them in course of the last six years, during which so many countries, whether contiguous, or separate and distant from each other, have successively suffered under this calamitous scourge?

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* Though this view of the case has escaped the attention of almost all professional writers, it did not escape the promptitude and acuteness of Mr Peel, who urged it with great effect in the debate on the Quarantine Bill, on the 30th of March 1825, in answer to Sir Robert Wilson, a partisan of non-contagion, and who, in the course of his speech, alleged that the soldiers were seized with the plague only in stationary situations, and never when on a march.

† It appears to have been generated at Jessore, a town about 70 miles N.E. of Calcutta, in August 1817, and reached Calcutta the following month.

4thly, I wish next to remark, that those who have argued against the existence of contagion from the impossibility of tracing it except at considerable distances, do not seem to be fully aware that the like argument might be adduced against the existence of the contagion of small-pox and measles, which, as every one knows, are frequently caught under circumstances of time and place, which would be held decisive against their being contagious, were it not that this is fully established by other facts. Such is the extreme subtility of infectious matter, as ascertained by the common experience and observation of mankind.

5thly, The last remark I shall make is perhaps the most important, though at first sight paradoxical. It is, that both parties in this controversy have truth on their side. Nothing, I think, can be more clear, from the very luminous history of this disease as given in the Madras Report, that it has arisen on various occasions without owing its existence to contagion, and without communicating it to others, as exemplified in cases of a very limited number of individuals unconnected and uninfluenced by each other; in which circumstances, after a partial prevalence, the disease disappeared without spreading, as stated in several passages of the Report; while it is equally manifest from other parts of the narrative, that the disease was certainly contagious; nor is there any thing contradictory in this; for it is perfectly consistent, abstractedly considered, that the concurrence of two causes may be necessary to the producing of one effect. Nor is it dissonant to reason and experience, when brought into comparison with analogous cases; for it is fully ascertained, with regard to the typhous fever of Europe, and the yellow fever of the West Indies, that though they sometimes appear in a *sporadic* and uninfectious form, they do also, under certain other circumstances, assume a form decidedly contagious. These circumstances are chiefly, vicissitudes of weather, increased susceptibility created by fatigue, privations, crowded accommodations, want of cleanliness, and deficient ventilation, which add concentration and virulence to the venomous principle. It must at the same time be admitted, that there are circumstances stated in the Report so peculiar and anomalous, as not well to be accounted for on any known principle.

But the great point of practical importance in this discussion is, whether, from what we know of this dreadful disease, any hope can be entertained of employing practicable and available means of arresting and averting its ineffable horrors.

This point, as well as some others respecting the question of contagion, will receive considerable illustration from what occurred in the Isles of France and Bourbon, in the years of 1818 and 1819. What is called the Indian Cholera, but which might be more properly termed the *Malignant Spasmodic Colic*, made its appearance in the Isle of France, on or about the 20th of November 1818. The Topaze frigate, from Ceylon, where this disease was prevailing, and it actually prevailed in the frigate, three men having died on the passage, arrived at the island on the 29th of the preceding month. Can there be a doubt, in the mind of any rational being, that this disease, never before known here in an *epidemic* form, was imported by that vessel? Is it conceivable that the air of the continent of India, or of Ceylon, could be wafted hither along with the frigate, at the distance of near 3000 miles; or that, just at that point of time, the air of the island itself, by a fortuitous coincidence, became contaminated? After prevailing a few months, it vanished; for it is one of the laws of this disease, that after rapidly selecting its victims, consisting of those who by some obscure predisposition are alone susceptible of it, it disappears.

From the circumstances of its appearance at Bourbon, we are led to some more important inferences. The governor of that place, under the strong conviction of its infectious nature, took measures, by proclamation, to bar all intercourse with the Isle of France. But in spite of this, a boat from the shore of Bourbon had clandestine communication with a small vessel from the Isle of France, probably about the 8th or 9th of January, for she left Port Louis on the 6th. After the usual interval, the disease showed itself so as to leave no doubt of an infection traceable to the boat, and spread to one of the quarters of the town. The governor, with his characteristic vigilance and energy, instantly adopted such measures of police by *cordons* of troops, and by conveying the sick to a lazaretto, that the farther progress of it was arrested, and in a short time it died away. In the Isle of France, on the contrary, where no such steps had been taken, the disease spread to the whole town, and to the rural population, to a calamitous degree.

The facts of this narrative are not unlike those which occurred about two years ago at the Island of Ascension, regarding the yellow fever, the circumstances of which were such, as in combination with others of a like kind, left no room to doubt of its infectious nature, and of the expediency of taking precautions against its importation. As a warning to prevent the recurrence of calamities, which in this and other instances, were imputable to a neglect of due precaution, a historical statement of it was conveyed to all the naval stations liable to this malady; and the public authorities of the army directed copies of it to be transmitted to all the stations liable to this malady in the West Indies and Europe, where the troops have suffered so disastrously from it, through the neglect of due precautions.

It is somewhat singular and curious, but deeply affecting, that the great *epidemic* of the Western World should have spread itself eastward, so as to have reached one extremity of the Mediterranean Sea, while the great *epidemic* of the East, in its progress westward, has reached the other extremity of that sea: for the yellow fever has made dreadful ravages in Spain in the course of the last twenty-eight years, even Italy itself having not entirely escaped it; and the Indian cholera has reached Syria, as already stated, great numbers having perished by it in Antioch and Aleppo, in the course of last year.

London, 16*th June* 1825.

P.S.—Since writing the preceding letter, I have learnt on good authority, that though the cholera has visited Shiraz, and other cities of Persia, Ispahan has escaped, in consequence, it is believed, of the governor having prohibited the usual caravans to go there, and ordered them to take the road of Yezd, where it broke out in common with other towns. It is reported that intelligence has arrived of its having reached Laodicea, a seaport of Syria, also the coast of Egypt and Cyprus; but this wants confirmation.

X.

Case of Amaurosis successfully treated. By J. H. Wishart, F.R.S.E. Surgeon in Ordinary to the King in Scotland.

W. S., a boy about nine years of age, was brought to me, the 21st April, from the country, on account of an affection of his left eye. He had completely lost the sight of it, and was not even aware of any difference in a bright sunshine. On examination, no difference could be discovered between it and the right eye, the vision of which was perfectly unimpaired. The pupil was of its natural size, and dilated and contracted readily. He had occasional headach over the left eye; looks rather pale and languid; tongue slightly loaded; his stomach is stated for some years to have been very easily disordered by any trifling irregularity of diet; is frequently affected with coldness of the extremities, and the fingers of the left hand are often spasmodically drawn into the palm of the hand, requiring some degree of force to turn them out; the left foot is also similarly affected, the toes being turned in under the sole of the foot.

The loss of sight is stated to be of about four month's duration, and is said to have come on suddenly, on being told incautiously of the death of his grandmother. The delicacy of his stomach is ascribed to the misconduct of his nursery-maid, who very early got into the habit of giving him whisky at night to keep him quiet, being herself addicted to the use of that deleterious beverage.

Considering, from the history of this case, that it was one that would probably yield to the use of evacuations, a full dose of ipecacuan was ordered, which, owing to some family arrangements, he did not take till the 23d. It operated fully, and brought away a considerable quantity of viscid phlegm, and a greater quantity of alimentary matter than was believed possible, from the weak state of his appetite. He was then directed to have, for two days, evening and morning, two pills composed of the colocynth mass, with half a grain of calomel and James's powder in each. The pills operated freely; the bowels were evidently loaded, and the matter passed was of a bilious nature. The vapour of the aqua ammoniæ was directed to be applied to the eye three or four times a day.

On the 29th, from some suspicion of worms being expressed by his parents, he got a dose of oil of turpentine and castor-oil. which also acted very freely, but no appearance of worms, The 30th, a small blister was applied to the mastoid process, and the following day it was dressed with the savine ointment. The ammonia excited considerable watering of the eye. The purgative pills were continued.

On the 1st and 2d May, he complained of a feeling of itching in the eye. No change had been observed on the vision. On the evening of the 2d he said, when the reading-lamp was brought into the room, that he could see the light of it; but on trial, he could not distinguish the finger, or any object held up before him.

On the 3d he got a cupful of senna tea instead of the pills, which operated three times, but more moderately in the quantity of the alvine discharge; and he said he could see his fingers. On the morning of the 4th, about four o'clock, he awoke, and was found by his mother labouring under a smart febrile attack; quick pulse, hot dry skin, thirst and headach. About six o'clock he had a most copious evacuation from his bowels, greater in quantity than any former one, and very consistent, with numerous lumps of indurated feces. This was succeeded by an immediate abatement of the febrile symptoms, and profuse perspiration. The skin had always been observed to be dry.

When I saw him about mid-day, his sight was perfectly restored; he saw every object, even as minute as the second hand on my watch. The pulse was still quick. The issue discharged profusely, and occasioned so much irritation, that I desired the savine ointment to be omitted for twelve hours. He was directed to be kept in bed, and to take a dose of castor-oil the following day.

On the 7th, as the evacuations had become moderate and natural, he was allowed a respite of the purgatives; and as he appeared weak and rather languid, he was ordered half a drachm of tincture of columbo twice a day.

On the 10th he returned home with his parents, the vision perfectly restored; to continue the blisters for ten days, and then to take small doses of bark and valerian twice or thrice a day; constant attention to be paid to the state of his bowels. The issue was obliged to be healed, in consequence of its exciting much irritation, and painful swelling of the superficial glands of the neck.

This case points out very clearly the decided benefit derived from purgatives in such affections, frequently met with in young people, and generally found to be connected with derangement of the primæ viæ. In a young lady, who was under my care a few years ago, a similar plan succeeded, nearly in as short a period of time, in completely restoring the vision of both eyes. Her case had been considered by a country surgeon as one of approaching apoplexy, a very rare disease at the age of seventeen. In the present case, I am of opinion that the irritation from the issue was attended with considerable benefit, and contributed to bring it to a favourable termination.

York Place, 4th June, 1825.

XI.

Case of Poisoning by Oxalic Acid, successfully treated. By DAVID SCOTT, M. D., Cupar-Fife.

1st February 1825.—AT seven o'clock in the evening, CHARLOTTE WALKER, a girl of twelve years, assisting in the service of Mrs Gillfillan, Boneygate, seeing a bottle on the kitchen dressing-table, which she imagined to be small beer, incautiously laid hold of it, and carried it to her head, out of which she drank to the extent, as she thinks, of about a wine glassful. This bottle contained a solution of oxalic acid, or acid of sugar, as the mistress called it, kept for domestic use for various purposes of cleaning, in the proportion of two ounces to sixteen of water, that is, a drachm to the ounce. The girl therefore, by swallowing two ounces, a common wine glassful, had taken two drachms of oxalic acid; and being thirsty at the time, and stealing it, as it were, in a hurry, might possibly have swallowed more. She immediately discovered her mistake, first, by the acrid burning sensation communicated to the mouth, gullet and stomach; and, secondly, by observing the word "Poison" labelled on the bottle. Perceiving her danger, she began to cry, exclaiming that she was poisoned, alarmed her neighbour servant, who communicated the circumstance to her mistress, and who again, on learning the matter, very properly despatched her for medical assistance; and in the *interim* the attendants gave her a pint of milk, and she drank at intervals some warm water. Being in an adjacent house at the time, I was immediately found. She was then complaining of some pain of stomach and belly, and she appeared greatly alarmed; her pulse was accelerated, but not beating forcibly. No time however was lost in administering an emetic, consisting of a drachm of ipecacuan, an ounce of ipecacuan wine, four grains of tartar emetic, and three ounces of water. This was given in four doses, at intervals of two minutes. By the end of ten minutes, the whole of this was taken; yet the girl felt no inclination to vomit. A stronger emetic was therefore prescribed, consisting of a drachm of the sulphate of zinc in six ounces of water. In the mean time, whilst this was being sent for, the pain of stomach and belly considerably increased, and alarmed greatly both girl and attendants. Seeing therefore the necessity of doing something immediately, I opened her mouth, and passed my finger by the root of the tongue, and into the top of the pharynx; by the irritation of which, an immediate and powerful vomiting was produced, which lasted a considerable time. She was supplied plentifully with warm water, and appeared luckily to have had a considerable quantity of food on her stomach. The emetic effect was kept up by the water until the contents of the stomach appeared to be completely evacuated, and the water was returned unmixed. By this time she felt the pain almost gone. A chemical antidote was however presented, consisting of four drachms of the finely levigated carbonate of lime, diffused through four ounces of cinnamon water. A fourth of this was immediately given, after which she complained of no pain; and in a quarter of an hour another fourth, when she was put to bed and soon fell asleep. She continued asleep for a couple of hours, and on waking said that she was quite well as to pain; complaining only of general lassitude and feebleness; particularly of the lower extremities. The next morning she felt a numbness and weakness of the back and lower extremities, so much so as to render it difficult for her to go up stairs, which however in the course of a few days gradually went off. She was ordered at this time a dose of castor-oil, and a laxative for a few successive mornings. She is now quite recovered.

There is nothing unusual in the foregoing case, only I thought it my duty to communicate it to you, as it adds one to the list of those that have recovered after having inadvertently partaken of this acid; and in order that the profession and the public in general may be apprised, which however they cannot fail to be, after the late able researches on this subject by Professor Christison and Dr Coindet, of its deleteriousness and activity of action, which is the more necessary from its recent and considerable introduction into private families for domestic purposes, such as the cleaning of boot tops, all sorts of brass work, &c. There is, I may venture to say, scarcely a gentleman in the country who is any way desirous of maintaining the 'beautiful white' of his boot-top, whose servant does not possess a solution of this acid; and in the instance before us, it was not only used for this purpose, but also for cleaning brass candlesticks, handles of doors, &c.; which the mistress of the house said it effected much more readily and completely than oil and rotten-stone; which she observed, spoiled the painting, and slipt into crevices, out of which it could not be got, and the black stains left in consequence, were a sore cause of grievance to her eyesight. In this case, however, it was most reprehensively kept dissolved in a common beer bottle, placed upon a kitchen dressing-table, and soliciting, as it were, from its unguardedness, the temptation of the young and unwary; and hence the reason why the poor girl, from its appearance and situation, mistook it for small beer. As to the treatment,—I think that the milk which was administered by the attendants was of considerable service, as possibly it might have combined with the acid, producing coagulation, thereby rendering its action on the stomach less severe, and its absorption more difficult. If so, it is fitting that a knowledge of this should be widely diffused, as milk is one of those things that can be most readily obtained in the country; and although it might be unsafe to trust to it entirely, yet it would be useful in giving time for more efficient remedies. That the matter in question was oxalic acid, I think will admit of no dispute; because it was obtained by the mistress of the house from an apothecary, under the express name of acid of sugar, which apothecary told her it was a 'poison,' and labelled it as such,—was employed by the mistress of the house for those purposes for which oxalic acid is generally used, and for which no other substance that I am acquainted with would act as a substitute,—was intensely sour to the taste; and, when a little of the acid, which was preserved undissolved, was examined and compared with some obtained from another apothecary, it presented the same external appearance and characters; besides, it was declared by the mistress of the house to be a solution of acid of sugar, which she had long been in the habit of employing; and further, we may add, as a corroborating proof from the symptoms, that it was evidently beginning to manifest its peculiarity of action on the spine and lower extremities. Wherefore, all things considered, although a quantity of it still remained in the bottle, it was thought unnecessary to subject it to further analysis.

Cupar Fife, 18*th February* 1825.

XII.

Case of Calculus extracted from the Female Bladder, by Dilatation of the Urethra. By JOHN MACKINTOSH, M. D., Lecturer on Midwifery, &c.

ALTHOUGH women are not so liable to stone as men, yet the records of medicine prove, that they are not exempt from this distressing complaint.

The female urethra is capable of considerable dilatation; and it is asserted, that stones of some magnitude have been known to pass through it without any assistance from art. The knowledge of such facts led Douglas, a century ago, to propose the dilatation of the urethra by means of sponge-tent, so that a stone might be extracted without any cutting instrument.

This operation of dilatation has been revived of late years; but instead of sponge-tents, various dilators have been invented, and a good deal of unnecessary ingenuity has been displayed in the construction of those instruments. Sir Astley Cooper, Mr Philips, Mr Brodie, and Mr Green, have operated successfully with these metallic dilators. The object of this paper is to record a case, in which a stone of very considerable size, and weighing 1 oz. and 35 grains, was extracted; the dilatation effected by sponge-tents, and the calculus extracted with a pair of common curved lithotomy forceps.

Mrs WATSON, aged 58, states, that she has been afflicted with the ordinary symptoms of stone for fourteen years, which have lately become very severe. After having been under the care of several medical men who did not suspect the presence of a calculus, she applied at my Dispensary for relief, and was attended by one of my most zealous and intelligent pupils, Mr Giffney. In a few days he suspected the existence of a calculus, which was confirmed by the sound; and the patient was extremely anxious to have the operation performed as soon as possible. The tent used was that prepared with wax. The first was introduced by myself, and produced very great pain; it fell out in eight hours, and was found unchanged.

Mr Giffney introduced another next day, which was also discharged without any increase of size—of course without producing any dilatation. In this way the three first days were lost, during which she suffered very considerable pain and irritation, to relieve which large opiates were used—and she lost the use of the left leg. The external parts of generation became much swelled and painful.

On the third day, Mr Giffney made the sponge-tents with tallow instead of wax, doubling their size each time they were changed. The dilatation went on so well, that on the fifth day Mr Giffney reported to her, that he could with ease introduce the fore-finger into the bladder. But as we knew that the stone was a large one, the tents were continued till the eighth day, when it was determined to attempt the extraction.

On making an examination, the urethra was found to be so much dilated, that the index finger was easily introduced into the bladder, and the stone felt. I found there was no necessity for employing a metallic dilator, which had been provided. The forceps were then introduced, and the stone after some little difficulty laid hold of, but as it was by the long axis, the instrument slipt. The second attempt was more successful, and the stone extracted with more ease and less pain than could have been anticipated. Mr Syme, Dr Duffin, and Dr T. Spens junior, were present, together with several of my pupils. The patient passed a good night, and next day the sphincter of the bladder had recovered so well, that she was enabled to retain her urine for several hours without inconvenience and has only twice passed it involuntarily since. On the 1st June, twenty days after the operation, she describes her state of health as being perfectly re-established, has no pain in the region of the bladder, can retain her urine and pass it at pleasure; and regrets the fourteen years previous suffering, the quantity of medicines she had taken without relief during that period, and the amount of the bills she had paid for medical advice, to regular as well as irregular practitioners.

I know that a good deal of prejudice still exists against the operation by dilatation, from an apprehension that incontinence of urine must follow; and I freely own I dreaded this so much, that I had at one time resolved to operate in this case by incision. Fortunately, however, from having been assured that incontinence of urine would not necessarily follow, I abandoned my first intention. The result of the case proves that I was not deceived; and the calculus is larger than that extracted by Mr Green, which is of greater size than that in any well authenticated case yet published.

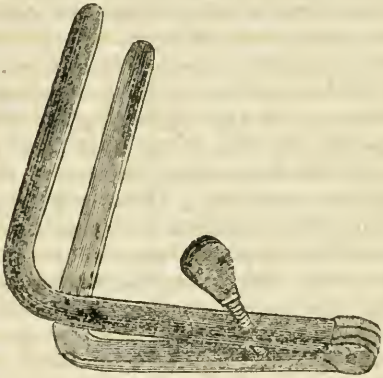
XIII.

Description of an Instrument for Dilating the Female Urethra. Communicated in a Letter to Dr DUNCAN, jun. by JAMES SYME, Lecturer on Anatomy.

MR WEISS's most improved instrument for dilating the female urethra, is, as you know, composed of two steel rods about four inches long, and of such thickness as to fill, without much distending, the canal when of natural size, which are made to separate from each other *gradually*, and in a *parallel direction*, by means of a rather complicated mechanism enclosed in a little box placed at one extremity. You are also, perhaps aware, that the price of this neat and ingenious machine is *Three Guineas*,—not much certainly, when we consider the complexity of its structure, together with the three silver wires and ebony employed therein.

It thus appears, that the instrument in question is objectionable on two grounds; first its price, and secondly its liability to injury from use, as the box which contains the organs of motion, must, if left in operation, be soaked with urine. On a late occasion, therefore, when my friend Dr Mackintosh proposed to purchase Mr Weiss's dilator, I advised him not to do so, and promised to think of a substitute more cheap and effective, though perhaps not quite so neat and ingenious.

The result of my attempt to redeem this pledge is represented in the annexed cut. The instrument as will readily be seen, consists of two short rods jointed together at one extremity, and bent about their middle at a *right angle*. A little way from the joint, one of the rods is perforated by a hole, through which a screw works and plays upon a groove in the other.



It is hardly necessary for me to add, that when the screw is turned inwards, the rods are separated from each other *gradually*, and beyond the rectangular bend in *a perfectly parallel direction*. The effect of Mr Weiss's instrument is thus obtained, while the means being more simple, and acting at a distance from the urinary passage, there is less, or rather no risk of injury from use. The price too, I may notice, need not exceed a few shillings.

The contrivance, therefore, may interest those who wish to dilate the female urethra (or rectum) by mechanical force—in which case I would recommend the assistance of that most deserving artist Mr Young, cutler, No. 58 South Bridge, who is provided with a few of the instruments ready made.

Having thus complied with your request, I must beg you and all others who may read this letter, to recollect, that I am no advocate for the use of dilating instruments, (excepting bougies), and should probably never have thought of inventing one but for the circumstance above mentioned.

6, *Forth Street*, *5th June* 1825.

XIV.

Contributions to Morbid Aanatomy. By RICHARD MARTLAND, M. D., Physician to the Blackburn General Dispensary.

I. *Tubercles of the Liver and Pancreas.*

MRS HOLDER, æt 60, of a nervous temperament and spare habit of body, came under my care August 3d, 1823, with the following symptoms. Great prostration of strength, nausea, anorexia; great thirst; furred and dry tongue; pulse 98; skin rather moist, and very yellow; conjunctiva of same colour. Bowels regular; stools very white; urine cloudy, high coloured, and imparting to linen a yellow dye. Much pain at scrobiculus cordis and right side, just under and a little below the margin of the ribs, where there was situated a hard tumour, of the size of the palm of the hand, slightly elevated, and very painful on pressure. Her complaints began about the middle of July, the yellowness and pain on the 25th. Mercurials and a saline sedative mixture were ordered, as she had before taken an emetic and cathartic, and had had leeches and a blister on the tumour. From the above date till her death, on the 8th of December, her emaciation progressively increased, till it had attained the highest pitch, and occasionally she suffered most severely from the pain in and about the tumour, which enlarged towards the end of her complaint. Her pulse ranged between 80 and 100; her tongue was generally furred, and she had great thirst the whole time; but she abstained as much as possible from drinking, as she imagined it increased her pain and sickness. The bowels continued pretty regular throughout; the appearance of the feces was a little variable but they never regained their natural colour; urine underwent, no sensible change. The yellowness of the skin and conjunctiva increased, and surpassed, in height of dye, any thing I had before witnessed.

At the commencement of the complaint, the treatment consisted in a full course of mercury, in emetics, saline mixtures and opiates. Towards the latter part, it was considered useless to try any thing but palliatives. Indeed opiates were then absolutely required, both to procure sleep, and lull the pain when very severe. It was necessary to increase the dose, till more than a drachm of laudanum was taken to obtain the desired effect.

Sectio Cadaveris.—9th December.—The body, when laid on the table, presented an extreme degree of emaciation; the tumour, which during life was prominent, had nearly subsided. The brain and thoracic viscera were in a healthy state. The liver was somewhat enlarged and covered with numerous tubera, most of which were of a small size and distinct, except opposite the gall-bladder, were they were confluent. The peritoneal covering was a little raised by them, and the interstitial parts were in an inflamed state. These tubera were composed of an opaque white matter, condensed in a close cellular structure, and were imbedded in the substance of this organ. The liver was so gorged with bile, that when a pin was introduced, a large quantity exuded. The gall-bladder was very much enlarged; it was capable of holding 10 oz. of fluid, and contained a great number of small calculi. The cystic and hepatic ducts were considerably dilated, but the ductus communis was almost impervious, in consequence of being lodged in a large *scirrhous* tumour, a morbid growth from the head of the pancreas. This tumour rested on the duodenum, was about the size of a hen's egg, and when cut into, resembled cow's udder. A very small calculus plugged up this small duct, and thus entirely obstructed the passage of bile into the bowels. Some small glands were found on the under surface of the liver, about the porta, and accompanying its vessels, and one of considerable size was situated at the cystic extremity of the ductus cysticus. The other viscera were healthy.

II. *Medullary Tubercles in the Pelvis.*

Sergeant Pollard, æt. 61, of a sallow complexion and spare habit of body, was in his Majesty's service for many years, and till lately enjoyed very good health. For the last two or three years he had been troubled with hæmorrhoids, from which blood was occasionally discharged in considerable quantity. This discharge always relieved a dull pain in the rectum, the usual precursor of the attack. About the middle of August 1823, he felt a frequent desire to pass his urine (particularly when in bed), which he was unable to do except in small quantities. It was attended with pain in the abdomen, perineum, and neck of the bladder, and was voided best in an inclined position. His bowels became irregular, and the abdomen was much distended, partly by the accumulation of water in the bladder, and partly by flatus in the bowels, hence he was much relieved when he parted with either in considerable quantity.

He first applied for advice in the beginning of September, when the above symptoms were present, accompanied with pain in the lumbar regions, and itching at the end of the penis. His appetite was bad—had great flatulency, bowels tolerably open. Pulse moderately quick, and rather full. Had a mixture of tincture of henbane, of jalap, of cinnamon and spirit of nitric ether, also a stimulating liniment which he rubbed on the belly. These means were continued a few days with temporary relief to the flatulency; but as the difficulty of voiding urine continued, he took some balsam of copaiva, sweet spirit of nitre, and tincture of digitalis, and soon afterwards passed some small calculi. On the 3d of November a sound was attempted to be passed into the bladder, (on the supposition of there being a stone,) but it could not, owing, as it was thought, to a stricture of the urethra. On examination per anum, a large, hard, and irregular tumour was found nearly filling the lower part of the pelvis, and materially diminishing the canal of the rectum, which was pushed to the right side. The drops were continued with some relief till the 10th, when having passed little urine, and the bladder being distinctly prominent in the hypogastric region, the catheter was with some difficulty introduced in the morning, and two pints of highly coloured urine drawn off. This gave very great relief to the distention and pain. The operation was repeated in the evening, when one pint was discharged. He had now a mixture composed of carbonate of magnesia, sweet spirit of nitre, tincture of digitalis, tincture of opium and ipecacuan wine, as also pills of subcarbonate of soda and uva ursi extract. For a few days after this, he passed his water rather better, but not in sufficient quantity. His bowels being irregular, various strong cathartics were given, when nothing but mucous stools were discharged.

On the 15th Mr Barlow joined me in consultation, when the symptoms were nearly the same, and we tried to introduce bougies and catheters of various sizes, without effect. Much hemorrhage from the urethra was occasioned by the force used, which gave relief. Anodyne suppositories, when there was much pain about the neck of the bladder and in the rectum, gave temporary ease, as did also fomentations of the lower part of the abdomen. On the 25th, the urine being in very small quantity, and the distension having increased, I attempted to pass a catheter with the effect only of causing a fresh discharge of blood from the urethra, by which the pain was again relieved. On the 26th, my pupil Mr Cutliffe, succeeded in passing a small catheter, and drew off three pints of urine. After this he enjoyed a comfortable short sleep. A large catheter was afterwards with difficulty introduced, and plugged so that he could let off his water when necessary. Ten grains of calomel and a brisk cathartic enema were given. Only a little of the latter passed the obstruction formed by the tumour, and nothing but a lage quantity of mucus came away. He grew gradually worse; on the 27th and 28th, the catheter was retained, and the plug taken out occasionally. He became at times delirious and had an increase of fever. No proper feces were discharged. Salts in combination with saline draughts in the state of effervescnce were administered. On the 28th the catheter slipped out of the bladder, and was easily replaced. Had no pain except when the bladder was distended with water, or it was necessary to evacuate the bowels, and, though only mucus passed per anum, he was always relieved by it. On the 29th his pulse was 100, and strong; tongue much furred and white; thirst urgent, skin hot; vomited a good deal of bile, which gave relief. A large quantity of brownish mucus was discharged from the bowels; his belly was much distended, without pain. As the catheter gave him some uneasiness it was removed, and introduced occasionally. The medicine caused trifling sickness, but was continued. On the 30th, pulse 120 rather full, tongue foul and thirst very great; his countenance was anxious. The catheter was introduced three times, and by the aid of glysters, he had for the first time during several days very copious, fetid brownish stools. He was ordered to continue his mixture. The griping was so severe in the night that he could not sleep, and he was at times delirious. By taking twenty drops of the tincture of opium on the 1st December, the griping was eased, and he obtained some sleep, which gave him much relief. During this day he had two loose stools with very little griping, and his urine was drawn off twice. The simple saline effervescing draughts were ordered. In the night he slept well, and on the 2d a large quantity of liquid feces was discharged, without griping. The catheter could not be introduced this morning before he had taken some laudanum; it was then left plugged and the plug to be taken out occasionally. After this he was tolerably composed, and slept at intervals, his pulse 120 and full, tongue foul, thirst great, and abdomen much distended. The saline medicines were continued. December 3d. Slept well most of the night, belly still much distended, with griping, and an involuntary discharge of feces and urine.

He was now observed to be sinking fast, but continued till half-past five o'clock in the morning of the fourth, when he expired.

Sectio Cadaveris.—I examined the body 36 hours after death, in the presence of Mr Barlow and my pupils. The abdomen was found much distended with flatus, and marks of chronic inflammation were observed in different parts of the intestines, particularly about the ascending branch of the colon and cæcum. Bands of coagulable lymph bound the anterior surface of this gut to the peritoneum and its posterior surface, for 4 or 5 inches to the lower part of the ileum. Just above this adhesion, the colon, which was unusually thin, had given way, and caused the discharge of a large quantity of feces into the abdomen. It was still however much distended, partly with flatus, but principally with thin, dark brown feces, and a few scybala. Nearly six pints of this matter were removed. The circumference of the colon at the cæcum was 13 inches. The stomach and small intestines were natural. A portion of the pubes was removed to procure a proper view of the contents of the pelvis; and the cavity of the sacrum was found filled with a large irregular tumour, measuring 15 inches in circumference from above downwards, and 13 inches in its smallest circumference. The tumour pushed the rectum on its right side, and gave its adjacent coats a livid tinge. A small stricture was formed by a membranous band surrounding the rectum about two inches from the anus. The canal was also further obstructed by a small tumour, (an appendage of the larger one,) 1 inch in diameter, and ½ an inch in thickness, pressing on the gut half an inch from the anus. The large tumour was connected by cellular substance to the prostate, and drew the urethra down a little below its usual course. The tumour exhibited externally the same tuberculated appearance we often see on the liver; but internally, the appearance was in some parts similar to the cortical part of the brain, interspersed with clots and streaks of grumous blood; there were, however, some fibres irregularly, and at great distances, dispersed through the mass. In the urethra, there was no stricture; but in the posterior part of that portion imbedded in the prostate, two false passages were found, which appeared to have been formed by the instruments used not bending sufficiently forwards. The mucous coat was considerably elevated in its whole course through this gland, forming a septum between the true and the two false passages. The walls of the bladder were much thickened, and its internal surface much corrugated and of a dark crimson hue. In some parts the interstices between the rugæ were ulcerated, particularly about the fundus, and behind the cervix. No urine was found in the bladder, nor did it appear capable of containing more than six ounces. The rest of the abdominal and thoracic viscera were free from disease. The cranium was uncommonly thick, and the dura mater very firmly adhering to it. An ounce and and a half of blood issued from its vessels. The pia mater had its vessels distended with red blood, and patches of coagulable lymph were dispersed over its surface. More blood than is usual followed the knife in making various sections of the brain, but the substance was otherwise healthy.

III. *Extensive Formation of Tubercles.*

Master C. H. G., the subject of the following case, died April 12. 1824, aged nine years nine months; he was under the care of other medical men until ten days previous to his death, when the charge of his treatment devolved upon me. Before he was four years old he was considered remarkably healthy; but then an attack of jaundice stamped a change in his complexion, which was never afterwards effaced. His health was good from this time till the completion of his seventh year, when an herpetic (here popularly called scorbutic) eruption appeared over a great part of the body, for which he used quack medicines for some time; and on the disappearance of the eruption, he was sent to the sea-side for the benefit of his health. He had just completed his ninth year when he returned, and was tolerably stout; but in two months the complaints, which ultimately proved fatal, made their appearance. He was first attacked with the usual symptoms of catarrh. He had a troublesome cough, which never left him, and was often very violent. Towards the last his expectoration was great, and he had colliquative sweats. Along with the catarrhal symptoms, a trifling palpitation of the heart showed itself, which strengthened as the disease advanced, and was accompanied throughout with pain. A species of furunculi, evidently of the chronic kind, made their appearance on the shoulders, and soon increased, both in number and size, principally on the extremities; but a few were found on the body. The skin was much discoloured on their surfaces, and round their bases, so that some nearly resembled carbuncles; they contained a thin watery and bloody matter. For nearly twelve months before his death the yellowness of the skin was on the increase; and he had occasional pain of the head about the same length of time, which, for the last fortnight, was extremely severe. He had great tenderness over the whole abdomen for the last six weeks of his life; it was excessive in the right hypochondriac region, and prevented him taking rest on that side. Hemiplegia of the left side came on three days before he died, soon after which he seemed to be in great agony, and continued so till death put a period to his sufferings. The above brief history is principally collected from the account given by his parents, who kindly allowed an inspection of the body twelve hours after death.

Post mortem examination, in presence of Messrs Gaulter and

Smalley, surgeons in Over Darwen. The furunculi on the surface were fifteen in number, their appearance as before described. The body was greatly emaciated. The whole of the peritoneum immediately lining the abdomen, and that part forming the omentum, were in a state of high conjestive inflammation; the blood of the vessels was of that dark venous hue which indicates the chronic stage. The peritoneal coat also of many of the viscera was very vascular. The omentum and anterior peritoneum were so firmly glued together, that it was impossible to separate them without laceration. Adhesions were also formed in several places between the intestines and this membranous bag. A great number of scrofulous tubercles were situated throughout the whole omentum between the layers of peritoneum; some of them were so small that they appeared like granulated adipose substance, while others attained the size of small peas. The peritoneal covering of the lower part of the alimentary canal, and of the bladder, were in a tolerably healthy state. The liver was somewhat enlarged; its peritoneal coat firmly adhered to the diaphragm and anterior peritoneum; and under it the surface of the liver was studded and rendered uneven by tubercles of a light yellow colour, about one eighth of an inch in thickness, and from one fourth to one inch in diameter. The substance of this gland was natural. Bands of coagulable lymph bound its under surface to the stomach and intestines. Between it and the stomach were found a few tubercles, one of which had suppurated and contained a yellowish curd-like matter. The gall bladder was a good deal distended with dark coloured bile, but was otherwise healthy. The *ductus cysticus* was much contracted, and also the *ductus communis choledochus*, but in a far greater degree, as it would scarcely admit a small probe. The pancreas was twice its ordinary size; its right extremity was considerably enlarged, and in a scirrhous state. By pressing on the *ductus communis* it prevented the discharge of the bile, and caused a regurgitation on the liver. The stomach was tolerably healthy. At the pylorus, the villous coat of the intestines assumed a highly vascular state, which extended (though diminished) two thirds down the jejunum. The diameter of the colon was considerably contracted, being smaller than the small intestines; its villous coat was inflamed. Patches of tubercles were found under its peritoneal coat. The mesentery was in a high state of chronic inflammation; its glands were much enlarged, and fast approaching the suppurative stage. The other abdominal viscera were in a sound state. The superior lobe of the left side of the lungs contained a large abscess, which nearly occupied the whole of its substance. The matter was of that flaky yellowish kind called scrofulous. The remainder of this lobe was full of tubercles, which were fast approaching to join the general abscess. The inferior lobe contained tubercles of various sizes, from small depositions of a scrofulous cheesy matter to small vomicæ, of which last there were two. About the bifurcation of the bronchi were three enlarged glands, one of which had formed thick yellow pus. The right portion of the lungs was tolerably healthy, containing only a few small tubercles. About twelve drachms of serum were found in the pericardium. On the right ventricle of the heart lay two scrofulous tumours, one about the size of a hazel nut, and the other fully six times as large. Their surfaces (particularly that of the larger one) were irregular and knotty, and they were rapidly advancing to the state of suppuration. The substance of the heart was very flabby. The structure of the brain was quite healthy, but an ounce and a half of serum was found in the ventricles, and three ounces were discharged from its base and the spinal canal.

Blackburn, *Nov.* 12. 1824.

XV.

Case of Enlargement of the Heart, with Observations. By WILLIAM HOWISON, M. D., Lecturer on Theory of Medicine, &c.

ALEXANDER ANDERSON, æt. 62, coachwright.—January 14th, 1823.—Complains of a sense of uneasiness, or dull pain, situated at the lower part of the sternum. The breathing is attended with great difficulty, so great, indeed, at times, as entirely to overpower him. He observes this to happen, particularly when at stool, and it is aggravated towards evening and during night, occurring obviously and distinctly in paroxysms. He cannot remain in bed, but sleeps, when he can procure sleep, at intervals, both day and night, in a semibent position. He says he can remain for a short period on his back; but, at present, he cannot lie on the right side without experiencing great agony, and lies with difficulty upon the left. He sits a great deal, during the night, upon a chair at his bed-side, rests his head upon the bed, and in this way sleeps. At other times, when experiencing great difficulty in breathing, he walks about the rooms. During his sleep, he repeatedly starts, and has slight delirium.

His countenance, in every respect, resembles that of a man in health. There is a natural healthy ruddiness in his cheeks, and no appearance of œdema. He looks so unlike his sufferings, that he has been suspected by several of feigning disease. His lips, however, present a slightly livid appearance.

His inferior extremities are considerably enlarged, present an œdematous appearance, pitting slightly on pressure; and the swelling, he reports, is gradually extending up towards the abdomen. For some time past has made water in small quantity only; and what he passes is red, resembling bloody serum. Complains of thirst; tongue foul and loaded; bowels naturally bound, but are kept open by laxatives. Pulse full, beats with violence, but not above 30; is irregular, and can with difficulty be counted.

He reports, that for many months past, his heart palpitated with such violence and irregularity, that it could be heard, or distinctly perceived at some distance; and that it gave him much uneasiness and alarm. At present, however, by laying the expanded hand upon the corresponding part of the thorax, it can be felt beating, and no more. It seems to require all its energy to act; when it does so, it appears as if struggling against some great resistance, as immersion in water, and requires a time to recover itself so as to resume its functions.

Until within these three years, he has enjoyed perfect health. Has led a very regular life, and never been addicted to, or even partial to liquor. Complaints commenced three years ago, and have slowly but gradually increased. About four months ago, from exposure to great fatigue, became over-heated, caught cold, and, since that period, his complaints have increased with great rapidity, until they have acquired their present height. Has been seen by a variety of medical men, and has used much and various medicines. He says that he has been much benefited by blisters, foxglove, and laxatives, and is convinced that his life has been protracted by these means.

℞ *Tinct. hyosciami* ʒii. *Æther. sulph.* ʒi. *ft. Haust. h. s. sumend.*

℞ *Sulphat. magnesiæ* ℥ss. *Supertart. potassæ* ʒi. *Sulph. potassæ cum Sulph.* ℈ii. *Tere bene simul. Capiat cochlear magn. in aqua tepida solut. omni mane.*

℞ *Haust. anodyn.*

15th.—Took only one-half of the draught, and is sensible of no benefit from it; bowels regular.

16th.—Took the whole draught, but was restless during the night, and slept no better. Pulsations at the wrist becoming indistinct; stomach irritable, with nausea; bowels regular; other complaints as described.

℞ *Pulv. digitalis gr. xii. Carbonat. ferri ʒi. Extract gentian ʒi. ft. misce et divide in pilul. equal. xxiv.*

Sig. One to be taken morning, mid-day, and evening. To have ginger beer for drink.

Vespere.—This evening was attacked with so severe a fit of difficulty of breathing, that he expected every minute to die, and sent for me. I was delayed from reaching him nearly an hour, when he had considerably recovered. His pulse beat remarkably slow and full. As he had received much relief from a blister formerly, and as I was afraid he could not stand loss of blood, no other remedy occurring which would afford any relief, I directed a blister to be applied.

17th.—Has not applied the blister. Has taken three of the pills prescribed yesterday. His countenance to-day is considerably altered, and has put on a sallow yellow appearance; whilst the red of his cheeks has become livid. The swelling of his lower extremities continues to increase, and is now occupying the lower part of his abdomen. Complains to-day of great debility, every thing which he takes upon his stomach producing nausea, and being rejected by vomiting. His breathing is very difficult. Has passed only about one gill of urine, which is of an uncommon red colour. Has been very thirsty for several days past, and nothing relieves it but small beer. Tongue foul and loaded; bowels regular; pulse cannot be counted, from beating so indistinctly. His voice is so much altered that he can scarcely articulate so as to be heard.

Contin. pil. digital. 1 *mane et vespere, solumm. &c.*

Let his limbs be rubbed with olive oil and flannel.

18th.—Countenance greatly altered for the worse, his cheeks and lips having become perfectly livid. His voice continues to fall off. He cannot now be heard distinctly, and requires a considerable time to complete a sentence; pulse at the wrist cannot be felt. The carotid arteries (jugular veins ?) beat perceptibly in the neck. For two days past has complained of cold, particularly in the lower extremities, and has occupied a seat close to a large fire, covered with blankets. Cannot bear his limbs to be rubbed, from the fatigue it gives. His breathing is now so difficult, that he pants with agony; and the general debility is rapidly increasing.

Contin. pil. digitalis 1 *indies tantum.*

To have for nourishment whatever he asks for.

19th.—Has been gradually sinking, and expired this morning at an early hour.

The case of this individual, as now detailed, created much interest amongst his medical attendants, none of us being able to make up our minds regarding the morbid appearances which would present themselves upon inspection of the body. The great resemblance of the symptoms to asthma in the difficulty of breathing coming on, and acquiring great severity in distinct paroxysms; the healthy appearance of the individual, the regular life which he had led, operating against the idea of hydrothorax; and the laboured beat of the heart, as if it had been immersed in water, pointing out dropsy of the pericardium, all tended to confuse our prognosis. Permission to inspect the body was earnestly requested, which was at last agreed to by his relations; and was carefully and most minutely performed, two days after his death, in presence of Dr Moncrief, one of the physicians to the Royal Dispensary, Dr N. Grant, &c.

Dissection.—On cutting open the integuments of the thorax and abdomen, very little fat appeared in the cellular substance, betwixt the muscles and cutis. Upon raising the lower part of the sternum at the left side, strong adhesions of the diaphragm presented themselves. When the sternum was bent back upon the breast, which was done with difficulty, the sternum, first ribs and clavicle being all firmly ossified together, no water appeared in the thorax, neither did air escape. The lungs on both sides were healthy, but seemed a little blanched; and no adhesions presented themselves. When cut into, no diseased appearances could be discovered in their internal structure. The right cavity of the thorax contained ℔iss. of water, of a serous appearance, whilst in the left cavity, there were about ℥vi. of a reddish colour. The pericardium occupied its natural situation; externally it was very vascular, and presented an appearance as if covered with powdered vermilion. When laid open, it was found to contain the natural quantity of water only. The heart, when turned out of the pericardium, was remarked by us all as three times the usual size. It was remarkably vascular, and also presented a vermilion appearance. Scattered over its surface, there were a number of spots of various sizes, from a pea to a sixpence, resembling *purpura.*

The heart was now removed from the thorax, by putting ligatures upon, and dividing the large vessels. Upon opening the right auricle, its cavity was found large, roomy, and its different parts bearing a (just?) proportion to each other. The foramen ovale was perfectly closed. The right ventricle was greatly enlarged, and its *columnæ carneæ* much stronger than natural. The margins of the principal valves were thickened and cartilaginous. The parietes were natural.

Scattered upon the outside of the parietes of the left auricle, and the origin of the pulmonary artery, were several black spots, two of an irregular shape occupying a considerable surface. These spots, upon examination, were found not in the slightest degree to weaken the parts which they occupied. Upon laying open the left auricle, its internal lining was observed to be of a yellow colour. The left ventricle was full of coagulated blood; its parietes natural. The mitral valve was thickened, opaque, and cartilaginous in its margins. The aorta presented a yellowish tinge; its semilunar valves were thickened at their origins; but their margins were natural. The two coronary arteries were much enlarged. The pulmonary artery was also larger than natural, and healthy.

Upon opening the cavity of the abdomen, about ℔ i. of serous fluid was found floating amongst the intestines; and the vessels of the small intestines in particular parts, were turgid with blood. The liver was enlarged, firm, and pale in its colour. When cut into, it was found to be harder than natural. The stomach was contracted in its centre, and put on the appearance of a sand-glass. The spleen, towards its centre and fore part, was of a whitish colour, which, when cut into, proved to be thickening of its peritoneal coat. The left kidney, on its surface, had several vesicles containing fluid, about the size of a small horse bean. The right kidney, on its surface, presented several depressions, formed by the bursting of these vesicles.

The appearances presenting themselves in this dissection, as now minutely detailed, by no means satisfied us. There must be much difficulty in believing that the quantity of water contained in the cavities of the thorax (viz. ℔ iss. in the right, and ℥ viii. in the left) could produce such difficulty of breathing, and that too returning in distinct paroxysms.

The diseased appearances or enlargement of the heart, one would think, could scarcely account for it either. It can only be regarded as a simple case of enlargement of the heart, accompanied with hydrothorax.

XVI.

Case of Intestinal Calculus, with Observations. By JOHN TORBET, Surgeon, Paisley.

PETER WAWSON, the son of Duncan Wawson, cotton-spinner, Linwood, had from his earliest years been of a delicate habit of body. His parents, from a prejudice, which in a certain class of society is far from being uncommon, attributed his weak health to the circumstance of his being vaccinated, and in their eyes at least with the more reason, since the vaccination had hardly been performed a fortnight, when the boy was seized with small-pox, and went regularly through the disease.—This occurred when the child was three months old; and from that period, the father declares his son has never enjoyed a day's health.

With the exception however of the boy's being described to have been afflicted with a constant purging, varying indeed in severity, and that, as soon as he could speak he complained of pain in his belly for seven or eight years, after this date nothing remarkable can at this distance of time be collected from his parents. About this period, however, the pain of the belly became more severe, the purging too still continuing.

In the mean while time slipt on, these symptoms remaining unabated, the parents contenting themselves with having recourse to the more common remedies applied in such cases, but always without any thing like permanent relief. The boy had now passed his eleventh year, when the father, having occasion to consult me on some other matter, casually asked me if I could do any thing for his son, who was much distressed with a purging. On making inquiry into the circumstances of the case, I was not a little startled to learn, that this purging had existed for years back, the boy for that space having been obliged to be up two or three times a night, and at times even so frequently as every quarter of an hour—that the stools were always thin and watery, sometimes yellowish, sometimes whitish—that he always ate little, his thirst being considerable—that occasionally he complained of acute pain in the belly—that at times there was a hard lump distinctly tangible in the belly, which at others disappeared—that at the periods of exacerbation this lump was acutely painful.

The boy living at three miles distance, I sent by the father some powders, with little hope of their doing much good, and expressed a strong wish to see his son. This wish was shortly after complied with.

The boy was evidently stunted in his growth, much emaciated, with that peculiar sharpness and knowingness of expression in the countenance, which is so poor a substitute for the ingenuous simplicity of youth; he had walked into Paisley, and was in consequence rather flushed. On examining the belly there was no general swelling; but in the right hyhochondrium there was a perceptible fulness and hardness; the under part of the belly quite soft and natural; he had no pain in the shoulder, and nover had had jaundice; his other symptoms were much the same as I have described them above.

I was persuaded, from the general appearance of the boy, and from the other circumstances of his case, that diseased liver or mesenteric glands, or perhaps both, were the causes of his disease. I mentioned this to the father, delivered a very guarded prognosis, and expressed my opinion that there might possibly be means, if not of curing, at all events of alleviating his son's complaints. With this object in view, I recommended some alterative mercurial powders; a liniment composed of mercurial ointment and camphor to be rubbed on the belly; the trunk to be wrapt with a flannel roller; great caution in his diet; and should there be any return of acute pain in the belly, that six or eight leeches should be applied to the spot, and occasionally repeated. All this was put in practice, and it was fancied with relief.

As I had but seldom occasion of being in the village where the boy resided, there sometimes passed weeks and months without my hearing much of him; and when I did so, it was merely that he continued much in the same state.

The father now finding that matters were not improving, and reflecting on what I had said of the diseased glands of the belly, determined to satisfy himself with regard to this point: he accordingly first showed the boy to some medical men in his own neighbourhood, and latterly took him to the Royal Infirmary of Glasgow. On presenting him there, the physician, deceived by the flush on the boy's countenance, and probably discrediting the account the father gave of the purging, was inclined to treat the case rather with incredulity. On the father requesting him to examine his son's belly, however, he began to look on the case with more interest; he declined giving any opinion as to the nature of the disease, but expressed a wish the boy should come into the house.—This was not acceded to.

For some months at this time I heard but little of the case. On the 27th February 1825, however, the father called to let me know his son was worse, the pain of the belly very acute;—that in addition to the purging, which had never abated, he was much distressed with wind, a complaint with which indeed he had been more or less afflicted all along; that his thirst was excessive, and that, of late, he had vomited almost all he swallowed. On the 2d March I was sent for to visit him. I found him much altered since I had last seen him—greatly emaciated, complaining of a burning pain at the pit of the stomach and unquenchable thirst, the vomiting still continuing; he had for some time back thrown off all his flannel coverings, and insisted on having his head uncovered. He was lying on his right side, his body bent double. On examining his belly, the lump was found occupying very accurately the right hypochondrium, and stretching over the epigastrium to the left side. It was as hard and unyielding as board ; he could not suffer it to be freely handled. I again fortified myself in the belief that the liver was the organ affected, its amazing hardness however continuing to surprise me.

On attempting to feel the pulse, I found there was none at either wrist, and that the humeral artery beat very quick and weak. I told the parents the state the boy was in, and that he could not last long. He died in the course of an hour after I left him.

DISSECTION.

The belly externally did not appear at all unnatural, nor was it till the hand was applied to the right hypochondriac and epigastric regions that any thing remarkable was felt. There, however, the hard tumour was very perceptible, and occupying so exactly the site of a diseased liver, that my friend Mr Vessie, who accompanied me, immediately asked me if I was aware of that organ being diseased. On cutting through the parietes, the omentum presented itself much larger than might have been anticipated. It formed a complete apron over the bowels, its cells containing a considerable quantity of fat. On laying this aside, it was at once perceived that the liver was not the organ affected, and that the ascending and transverse colon, containing an immense concretion, and occupying so exactly the site of the liver, that till the gut was pulled aside, no part of the former organ was visible, occasioned the tumour to which so much reference has been made. The ascending colon was quite free, and had no preternatural adhesion ; the transverse adhered at one point for about the space of an inch to the great arch of the stomach, which viscera were respectively discoloured at the point of adhesion, and had between them a tea-spoonful of pus ; the small guts were pushed downwards and to the left side, but were in all other respects perfectly natural ; the stomach, except at the point already indicated, was also natural ; the liver, if we except that it was pushed upward by the tumour, its thin edge a little attenuated, and at one or two points discoloured, (which discoloration, however, did not penetrate deeper than the peritoneal covering,) was quite healthy ; the gall-bladder contained a considerable quantity of bile. On carefully examining that portion of the coats of the stomach to which the colon adhered, with the exception of the external coat, it was found they were healthy, and that no perforation had taken place.

On laying open the colon, the three stones were found of unusual size and appearance.

The large one, measuring in length $3\frac{6}{8}$ inches, and $7\frac{5}{8}$ inches in circumference, occupied the whole ascending colon; its convex side faced laterad or rather atlantad, since it was in a great measure opposed to the concave face of the liver; its upper end, hollowed into a cavity, very much resembling the glenoid cavity of the scapula, received the corresponding demispherical end of the second piece, measuring at its broadest part one inch in length, and in its circumference $7\frac{1}{2}$ inches. This piece occupied the beginning of the transverse arch of the colon, and the joint was a contrivance in order the better to adapt the concretion to the change of direction in the gut. This second peice was hollowed at its opposite end to receive the convex end of the third piece, which measured $2\frac{2}{8}$ inches in length, and $5\frac{7}{8}$ inches in circumference.

The weight of the three calculi on being removed from the gut was $12\frac{1}{2}$ ounces. There was no adhesion between the concretion and gut, or thickening of the coats of the latter.—Between the gut and calculus there was a quantity of mucus-looking fluid smelling strongly of feces.

OBSERVATIONS.

Diagnosis.—Were I called on to establish a diagnosis for cases of this nature, I should be inclined to note the following symptoms as possessing nearly a diagnostic accuracy. A circumscribed, incompressible, moveable tumour in some region of the belly—irregular attacks of acute pain in the region of the disease, alternating with periods of complete intermission—irregularity in the process of alimentation, at one time costiveness, at another purging prevailing, (in some cases, however, as in the above, the purging being constant), impaired appetite, and in the advanced state an impossibility of digesting solid food—occasional vomiting, (but this not a necessary symptom), the want of any thing like feces in the stools—the want of general swelling of the belly—the absence of fever—the long continuance of the disease, and the emaciated condition of the patient:—If with these symptoms any thing like calculus has ever been passed, by vomiting or stool, the nature of the case might be pronounced without hesitation or risk of error.

The prognosis in such cases, especially when the concretion is large, must of course be guarded.

In the event of our arriving at an accurate diagnosis of such a disease, can our art do any thing for the removal of it? There are but three ways in which this can be attempted—purging, dissolution, and operation.

Purging, unless when the calculi are very small, (and in such cases the inteference of art will be seldom required), seems to me to hold out but slender hopes of success. Even in the judicious and enlightened hands of the late Dr Monro, this mode of relief produced no cure in any of the cases related, and in one of them would seem rather to have made matters worse.

The second means, that by dissolution of the concretion, I have no faith in.

The third mode of relief, that by operation, has already been proposed by the late Dr Monro, and comes therefore recommended by the sanction of his high name. The following is the mode of operating suggested by the Doctor.—"Let an incision be made from the twelfth rib, at the distance of two inches from its point, directly downwards to the top of the os ilium. Then cut slowly, and with great caution, inwards and forwards, till the back of the colon is laid bare for a little way; then with one hand press on the fore part of the tumour, and with a finger of the other hand try whether you feel the tumours within the colon. If you think you do, make a very small hole in the colon, and introduce a probe, and by that means make it certain that the balls are there, by touching them with it. Then with the greatest caution enlarge the incision as much as is necessary for introducing a pair of forceps, such as are used in lithotomy for laying hold of and extracting them," &c. &c.

It will at once be perceived, that the object in view in recommending this mode of operation, was to avoid wounding the cavity of the peritoneum, by opening the gut at that part where it is not covered by that membrane. Experience, however, has shown, that the danger apprehended from wounding this membrane, and consequently exposing the viscera to the contact of the air, has been very much exaggerated. Seeing therefore its only recommendation is the attempt to avoid an imaginary danger, the manifest objections to the operation, *e. g.* the uncertainty whether the concretion be in the colon—the uncertainty of hitting the exact spot of the gut—the great depth of the wound—the danger of matter burrowing between the muscles, &c. must for ever prevent its adoption.

It strikes me, that were an incision made through the abdominal parietes, in a direction as nearly that of the tumour as circumstances would admit of—the gut cautiously opened—an artificial anus attempted to be formed, and the future re establishment of the passage of the feces by the rectum, trusted to the powers of Nature, that a reasonable prospect of success would be afforded, and most of the objections to which the other mode of operation is liable, be avoided. In cases where the gut containing the concretion has formed an adhesion to the peritoneum, covering it so that the parietes and gut are all matted together, the chance of success by the operation I have proposed would amount almost to certainty.

Note by Dr Duncan, *junior.*

The great weight of these calculi leading me to suspect that they were of a different nature from the common *amadou* calculus, so well described by my colleague, Dr Monro 3tius,[*] and by Dr Marcet,[†] I was anxious to have them compared, and Mr Torbet was so liberal as immediately to comply with my request, that they might be transmitted to Edinburgh for that purpose.

At once their external appearance and their greater specific gravity, showed that they were considerably different from the other specimens of intestinal calculus in my possession. Instead of the soft brown surface, like *amadou*, or the skin which covers the horns of the deer when they first shoot, they resembled bone in general appearance, Indeed the second or middle piece, which was flat and articular at both ends, was at first mistaken by many to whom it was shown for an apophysis. On more minute examination, however, it was found not to be uniform, and in several places, portions of the coverings of the seeds of the oat, such as often remain in oatmeal, were found firmly imbedded in it, and very little changed by digestion.

The specific gravity of the middle piece, when first immersed in water, was 1105, when thoroughly wet, 1290.[‡] Although externally it had the appearance of solid bone, on proceeding to divide it with a fine saw, to observe its internal texture, it soon appeared to be fibrous, like the oat-beard calculus, and on being divided, it became evident, that although the quantity of earthy matter was much greater than in any I had examined before, it contained the same fibres as the common specimens, and therefore *had the same origin.* The sawings and fragments were given to my friend Dr Turner, who was so good as to send me the result of his analysis, in a letter annexed to this Note.

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[*] Morbid Anatomy, p. 30.

[†] On Calculous Disorders, p. 130.

[‡] Dr Thomson has stated the medium specific gravity of the specimens examined by him as varying from 1.376 to 1.540, at an average 1.400, while they contained only about 50 *per cent.* of phosphates, whereas ours contained 68 *per cent.* A very fine example of the more common variety examined by me, when first thrown into water, swam with one half of its mass above the surface of the water, or had a specific gravity of little more than 0.5, and after being left in water for 72 hours, it still floated but almost immersed in water, or was rather less than 1000.

Before the publication of his Morbid Anatomy, Dr Monro wished me to make an analysis of the *amadou* calculus, that he might add it to his description; but I thought it sufficient to ascertain that it consisted principally of woody fibre, trusting solely to the characteristic smell evolved by burning a portion of it upon hot iron. From Dr Thomson of Glasgow he received a more elaborate analysis, which is that published. From some peculiarities he observed in the chemical characters of the fibrous part of these calculi, he considered it as differing from every animal and vegetable substance hitherto examined, and particularly from woody fibre. Dr Thomson did not give any opinion as to its source; but it is evident, from the situation in which it was found, that it might be either an animal secretion, or the remains of a foreign substance introduced into the intestinal canal, and could be only one of these. The former opinion is altogether improbable, both from its analysis and its hairy texture. The latter, on the other hand, is highly probable, and I continued to consider these calculi as consisting, besides the earthy matter, of the fibres of vegetable substances retained and accumulated in the colon, from which every thing soluble had been removed by the intestinal fluids and the process of digestion to which they had been long subjected. I need scarcely add how much I was gratified to find, in Dr Marcet's Treatise, that my general opinion was not only confirmed by Dr Wollaston, but with the singular acuteness which distinguishes that philosopher, the individual vegetable, and part of that vegetable which produced it, was detected.

We may now assume it as established, that the *debris* of certain articles of vegetable food form the basis of these concretions; and we may with almost equal certainty consider the earthy constituent as a kind of crystalline deposite, from the intestinal fluids upon these pointed nuclei. It would appear, from the concentric layers of vegetable and earthy matter, that the deposite is not always equally copious; and it is not improbable that it is increased when some irritation exists in the bowels, from the circumstance that it is comparatively less abundant in the small concretions, and that, as Dr Monro has observed, the larger ones differ in being encrusted with earthy matter.

Mr Torbet's proposal of extracting these calculi by laying open the abdominal cavity, and cutting them cautiously out of the colon, receives support from the gut and other solids being almost always in a healthy state, and from the success of various operations in which gastrotomy has lately been performed, without producing alarming symptoms; besides the cases in which the abdomen has been accidentally wounded, to the protrusion of the guts, without fatal consequences, and probably the excision of these calculi will in no long time be attempted.

But although Mr Torbet has discussed the possibility of dissolving such calculi in a few words, it appears to deserve a little more consideration. From the great solubility of the earthy phosphate, of which it is chiefly composed, it does not appear to me impossible that considerable impression might be made upon it by a course of mineral acids taken by the mouth or injected by the anus, in as great strength, and continued as perseveringly as the constitution might permit; while, at the same time, the use of oats and oatmeal in every shape should be positively interdicted, a precaution which should equally be attended to, whatever method of cure may be tried.

DR TURNER'S LETTER.

Consistently with its external appearance and unusual density, I find it to contain a large proportion of earthy matter. A quantity of the powder you collected when the calculus was sawed through its middle, lost 32 per cent. in the fire, and accordingly contained 68 per cent. of earthy matter. A portion of what appeared to contain the least quantity of earth, yielded a residue after ignition of 44 per cent.; while the ash of the most earthy parts amounted to 76 per cent. The unconsumed part is phosphate of lime: It dissolves readily in dilute nitric acid; and when the solution is boiled with an excess of subcarbonate of soda, an insoluble earthy carbonate is left, which, by the well known tests, proved to be carbonate of lime. After separating lime by the oxalate of potash, the filtered solution, on the addition of carbonate of ammonia and phosphate of soda, yielded a few crystals of the ammoniaco-magnesian phosphate. This appearance however is not constant; and though we may infer the presence of magnesia, most likely as the phosphate of ammonia and magnesia, it does not pervade the whole concretion uniformly. The phosphoric acid, separated from the lime by the soda, was readily detected by its appropriate tests. When exactly neutralized, nitrate of silver caused a yellow and acetate of lead a white precipitate, both of which dissolved without effervescence in pure nitric acid. The latter precipitate, when dried and ignited before the blowpipe on charcoal, yielded crystalline beads of phosphuret of lead.

When the cut surface of the calculus is examined by the eye, it is found to consist of two parts, quite distinguishable from one another, though in some places very intimately mixed. The one is a soft spongy network, formed of a congeries of short spiculæ; the other is the earthy phosphate. The former constitutes the nucleus and chief mass of the concretion, and exactly resembles the common intestinal calculi described by Dr Wollaston. It is unquestionably of vegetable origin, burning with the flame, and, as you justly remark, with the odour of woody fibre. The odour cannot indeed be relied on in the present case, because some fecal matter is likewise present; but in the pure specimen of the common kind which you sent me, it is quite distinct. The phosphate of lime, though it penetrates to the very centre, chiefly occupies the outer parts, and is arranged concentrically like urinary concretions, alternating in some measure with the vegetable fibre.

I have also examined by way of comparison the ordinary pure variety of intestinal calculus. It contains no separate deposite of earth, but leaves an ash when consumed by fire, which amounts to near 50 per cent. of phosphate of lime.

XVII.

Observations on the Case of Malignant Tumour, successfully removed by Operation, from the Left Antrum Maxillare, communicated by Mr NIVISON, *and inserted in No.* 83, *for April* 1825, *in a Letter to the Editor from* JOHN IRVING, Surgeon, Annan.

I FEEL myself called upon to make a few remarks on the relation of a case of malignant tumour, successfully removed by operation, communicated by Mr James F. Nivison, Hospital Assistant Surgeon to the Forces, and inserted in your Journal of the 1st of April last. There is no intention of entering into any controversial argument, but merely to set you, and the numerous readers of your liberal and enlightened Journal, right in a few particulars. The case was mine, and published without my knowledge, and altogether without my concurrence. Mr Nivison was well aware of this. He ought, therefore, in common courtesy, as well as in good taste, to have stated explicitly who performed the operation; for up to that time I was totally unacquainted with Mr Nivison, had never seen him, and was then introduced to him by Mr Bell, one of the naval surgeons to whom he alludes.

I began to attend Agnes Murray on the 11th October 1820. The tumour, at this time, was about the size of a pigeon's egg. I then applied a ligature round it, and in a short period it came away. She was then told, in the plainest terms, that the tumour would return. I often and strenuously advised her, at different times, to have it removed by operation, as the only and effectual measure for giving permanent relief; but such was still her horror at any thing in the form of cutting, as she termed it, that she could not make up her mind to put in practice what was now her only chance for life; at last she found there was no alternative, and the operation was performed. On the 1st of November 1822, this was done. I was assisted by Messrs Bell and Johnstone, naval surgeons, and Mr James F. Nivison, Hospital Assistant Surgeon to the Forces; there were also three pupils of my own present. Mr Nivison's account of the operation is tolerably correct, except in one particular.

He says, in page 292, near the bottom—"the operator now grasped the tumour, and, by much manual force and twisting (in which the assistant surgeons took a part), it was wrenched from its connexions." This statement I most plumply deny. No force was used; and if there had been any practised, the consequences to the patient might have been fatal. We had every reason to suppose, that the tumour had its origin in the *antrum maxillare;* but when the cheek was laid completely open, this was quite apparent. We had previously determined that, if a good hold could be got of the tumour, a trial was to be made to remove it by extraction, rather than by using the knife. This we were enabled to do by the complete absorption of bone which had taken place. I run the two fore fingers of my right hand below the tumour, situated in the cheek, and by opposing them with my thumb, and sinking, or indenting it frequently, I found that the tumour began to give way at its attachment to the orbitary plate of the superior maxillary bone; and by cautiously, but firmly, proceeding in this way, the whole of the cheek part of the tumour, as it might be called, was detached;—but that part which extended along the palate, as far as the palatine arch, and threw the uvula to one side, was yet to be removed. To effect this, I rapidly run the two fore-fingers of my left hand beyond this part of the tumour, and in every respect imitating that movement which an experienced accoucheur practises when he is detaching an adhering placenta, I had the pleasure to receive the whole of the tumour in the palm of my hand, and immediately brought all away, to the great joy of the poor woman, and the comfortable satisfaction of the medical practitioners. I think that it must be quite evident, that I could derive no aid from the assistants in this part of the operation. The breathing was difficult at any time; but with two of my fingers in her mouth, any additional assistance could have only confused me, and materially distressed her. Two buccal arteries were divided; but the woman being weak, and ill able to bear the loss of much blood, they were immediately secured. There was only one small plate of bone adhering to the tumour, scarcely the size of a sixpence. The tumour weighed exactly six ounces, and in its structure was exactly in every respect as Mr Nivison has described it.

There has been no regeneration of bone to fill up the extensive vacancy left by the loss of the *os maxillare superius* of the left side. The chasm is nearly as great as ever, being only to a certain degree filled up by smooth and healthy granulations. Her health and strength soon returned after the operation. She is now actively employed in the service of Lady Maxwell of Springkell. I had prepared a statement of the case and operation, which, had not increasing engagements prevented me, would have been sent forward to you early in the month of March. I cannot help saying, that Mr Nivison has made use of many fine expressions, and if they are intended for me, I thank him; but I must also say, that they are too thickly laid on. Language more moderate would have suited me better.

I request the insertion of this letter in your next Journal.

Annan, June 5th, 1825.

XVIII.

Observations on the Treatment of Ganglion. By WILLIAM CUMIN, M. D., Surgeon to the Lock Hospital, Glasgow.

HAVING some time ago met with several cases of the tumour commonly termed Ganglion, I was disappointed to find, that the usual modes which are recommended by surgical authors for the removal of such swellings, were either irksome and ineffectual, or of too formidable a character to be readily agreed to by the patient, or in most cases conscientiously recommended by the surgeon. As these tumours are commonly seated in tendons, they cannot be extirpated without exposing the tendons; and should the wound not heal by adhesion, a tedious and even sloughing sore may be the consequence. Such an operation is very rarely had recourse to; and the common method of treating ganglia is, to strike them smartly with a book, and thus endeavour to rupture the sac, and disperse its contents. But the thickness of its walls often renders this impossible, without an improper degree of violence; and even when it has been accomplished, the swelling generally, after a short interval, returns. The procedure is besides in itself rude and painful, and altogether most unsurgical. It occurred to me that by introducing a cataract needle obliquely through the skin, freely dividing the sac, and then pressing the contents into the cellular tissue, I should succeed more effectually, and with much less pain, in removing this disease, and that without any risk of inducing inflammation of the cavity. The sac itself seems to be very sparingly supplied with absorbent vessels, for absorption very rarely if ever, takes place here, so as to effect a cure; while the cellular tissue into which the contents would be forced by the proposed operation, abounds with lymphatics. I had no opportunity of proving the efficacy of this plan until the month of November last, when a patient came under my care in the Lock Hospital, having a ganglion on the back of the wrist, which had been partially removed for a short time by means of a very smart blow.

CHRISTIAN LIDDEL, admitted November 15th, 1824. November 22d.—The skin over the ganglion was to-day drawn firmly to one side, and a couching needle introduced into the tumour; the sac was freely divided, and the contents pressed into the surrounding cellular tissue. A small portion escaped through the external puncture, and presented exactly the appearance of the white of egg. Compress and bandage, solution of acetate of lead. December 2d.—Fluid is again collecting in the ganglion. December 20th.—The ganglion, which was much smaller than on the former occasion, was to-day emptied as before, by means of the couching needle. After this the fluid was daily pressed out of the sac into the surrounding cellular tissue, until the 24th, when only a very small quantity was found in it; and on that day she was dismissed cured, with directions to repeat the pressure daily for some time. I had an opportunity of seeing this patient at the hospital on the 21st February 1825, and I could then detect no trace of the ganglion, excepting a slight thickening in the situation which it had occupied.

I have since had several other cases which have served to confirm me in the favourable opinion which I had formed of this mode of operating for ganglion. It is of consequence, after the operation, to apply a compress and bandage, and every morning to empty the tumour completely by pressure, and then reapply the bandage, until at length all remains of the disease have been removed. It does not seem probable, that the cure in such cases is accomplished by the obliteration of the sac, or the cessation of its power of secreting fluid; but by its gradual contraction, and the permanence of the opening in its side, through which any newly secreted fluid finds its way into the cellular tissue, and is there speedily absorbed.

But this simple operation is not equally well suited to every form of ganglion, indeed there are some in which it ought not to be performed. The favourable cases are those in which the tumour is tense and translucent, and rolls freely under the skin, showing that the cellular tissue is loose and healthy. But should the prominence of the tumour be inconsiderable, and the skin covering it thickened or inflamed, the operation ought to be deferred until the parts are in a more favourable condition; for, under the circumstances now mentioned, the sac cannot be freely divided, the cellular tissue will not readily receive the glairy contents, and the efforts used to force them out, will in all probability cause inflammation and suppuration of the sac. None of the patients on whom I have operated ever complained of pain from the introduction and movements of the needle; one gentleman indeed even spoke of the latter as causing rather a pleasing sensation.

It has occurred to me, that a similar mode of operating might be applied to hydrocele; and that a cure of that disease might be accomplished by opening a communication, by means of the cataract needle, between the cavity of the tunica vaginalis and the cellular tissue of the scrotum. No suitable opportunity has presented itself of putting this idea to the test of experiment; but the trial is one which, in the hands of a cautious surgeon, would in all probability effect at least a temporary cure, and which could not be productive of any injurious or unpleasant consequences.

Glasgow, 9, *Gordon Street*,
June 8th, 1825.

XIX.

Experiment to determine whether the Blood in the Veins is moved by a Suction power in the Heart. By Thomas Paterson, Member of the Royal College of Surgeons, London.

The femoral artery, vein, and nerve of a rabbit, were separated, for about two inches from their connexions, a little below the groin; the limb was then cut through, leaving these vessels attaching the leg to the body. The vein was punctured, and the blood flowed freely. A ligature being passed above the puncture, and slightly drawn, the flow of blood increased; and when pulled tight, to prevent communication with the heart, it sprung out in a full jet. When the finger was applied to the orifice for a little, and then withdrawn, the blood spouted out with great force; this was frequently repeated, till the animal became exhausted.

I made this experiment, to ascertain if the circulation in the veins is solicited by a suction power of the heart. It does not prove the contrary; but it certainly demonstrates, that the blood CAN flow along the veins, independent of any suction, and with a force apparently sufficiently strong. Indeed the anatomical structure of the right auricle of the heart denies to it any suction power. Some, I am aware, maintain, that the suction is in the ventricle, and that, at its diastole, it produces a kind of motion in the blood of the *cavas*, which is retained, or rather restrained, during the contraction of the auricle, and fills it when emptied. The known laws of fluids refute this opinion. But if the blood circulates in the veins, with such a force as we have seen, independent of any suction in the chest; why look for more causes than one? Is the animal economy not already sufficiently mysterious? Such theories show ingenuity, while they betray ignorance.

I may here notice a statement made by Dr Carson in your Journal for April 1824, in attempting to obviate objections to the suction of the heart, advanced by Dr Philip. "If water (says Dr Carson) is to be raised through the same medium, that is through water, then an yielding vessel is sufficient; for the pressure on the internal surface of the tube is equal to that upon its external surface. The pumping of water through the tube, could not in this case cause a collapse in the sides of the vessels, if these vessels were once dilated by the fluid in which they were immersed. But as the animal fabric may, as far as regards the point in discussion, be considered a vessel filled with blood, the veins are immersed in a fluid of the same specific gravity with that which passes through them, and therefore cannot have their sides drawn together by suction originating in the chest." Now, had Dr Carson tied a piece of the inferior *cava*, to the mouth of a syringe, and, after filling it with water and immersing it in the same fluid, pulled up the piston, it would have demonstrated to him, what the laws of hydraulics render evident to any other person, viz. the error of the above statement, when applied to the *suction* or drawing of fluids through yielding tubes. Wo to man if his circulation depended on the suction of the heart, or resilience of the lungs!

I have said nothing as to the cause of the venous circulation; but it may form the subject for some future experiments.

Glasgow, 4th March, 1825.

PART II.

CRITICAL ANALYSIS.

I.

1. *Origines Contagii.* Scripsit C. F. H. Marx, Dr. Carolirubae et Badae. Apud D. R. Marx. 1824.

On the Origin of the Doctrine of Contagion. By Dr C. F. H. Marx. Carlsruhe and Baden. Published by D. R. Marx. 1824.

2. *Contagio cognito agli storici e filosofi antichi, ignorato dai medici Greci, Latini, Arabi, non immaginato da Papa* Paolo III.—*Errore di* Maclean.—*Dottrina del contagio fondata nel secolo quinto decimo da* Marsilio Ficino *e da* Alessandro Benedetto. (Annali Universali di Medicina compilati dal Signor Dottore Annibale Omodei. Volume xxii. Milano, 1822.)

The affectation of originality in thinking is the characteristic passion of the writers of the present day. To avow opinions which time has rendered familiar,—to believe in doctrines which have nothing but antiquity to recommend them,—to embrace, with tranquil assent, the views held by our forefathers,—may be the part of a prudent and imitative mind, who prizes the peaceful demeanour of legitimate discipline above all earthly possessions, but shows none of that moral courage, or talent for bold and original thinking, which will ever distinguish the workings of genius, and which alone can lead to celebrity or notoriety. Imitation, in short, is a vulgar and paltry error,—the vice of little minds and dull capacities; novelty of views and singularity of opinions are an undoubted mark of talent; and he who has not courage to deviate from the beaten path, can never hope to attain distinction, or be extolled as a transcendant genius. To say that any thing is merely good, is to damn it with faint praise;—to call it new, is to recommend it to attention;—but to say that it is original, is to confer on it the highest encomium which the public press can bestow. This aspiration after originality pervades every department of literature, encroaches on many of the regions of science, under the specious pretext of correcting errors and removing prejudices, constructs new theories in morals and religion, and, under the aspect of liberalizing and reforming, hesitates not to handle, unceremoniously enough, various political principles which had been believed to rest on the accumulated experience of ages. It is, in short, a divinity before whose shrine the incense of innumerable votaries is incessantly rising, and on whose altars the candidates for fame and distinction eagerly press forward to present their offerings; and if to some the divinity prove an idol, and its worship a barren demonstration of blind zeal;—sufficient numbers are still found basking in the sun-shine of ephemeral glory, to encourage the hopes of the sanguine, sanction the eccentricities of the eccentric, and canonize, as efforts of gigantic genius, all attempts to subvert long-established opinions, and raise new structures on the ruins of ancient principles. Does any one pant after eminence and distinction;—let him attack opinions which have been long received, and which are sheltered under the authority of illustrious and venerable names. Is any one tired with the dull monotony of hearing repeatedly what is well known;—let him boldly call in question some of our most common doctrines, and brand, as vulgar prejudices, whatever teachers have taught, or dutiful disciples have willingly learnt. Does any one long to excite a sensation, to see his name quoted, and his language become familiar as household words;—then let him shake off the fetters of system and the shackles of authority—let him promulgate new views, the more extravagant the better; he must doubt, controvert, and misrepresent; he must erect arguments and objections in order to be refuted; he must construct a great system, in which old things are distinguished by new names; above all, he must make distinctions without differences, and blend, in one general mass, all those things which have formerly been distinguished;—and he may be infallibly assured, that he is on the right high road to immortality and distinction.

It is the glory of medical science, that it affords the richest and most fertile field for this sort of literary adventure; and to say truth, candidates are neither few nor slow to improve it. Revolutions in this department of human knowledge are so common, that they have become almost proverbial, and furnished a good subject for one of its philosophical writers. The uncertainty of many of the subjects of discussion, the ambiguous manner in which they may not unfrequently be explained, the unsettled nature of the laws of evidence in regard to medical inquiries, the spirit of research and investigation itself, which is often mistaken for the spirit of discovery,—all powerfully encourage the announcement of new views, and the dissemination of eccentric opinions. Then comes the gratification of having one's opinions made the subject of discussion, of exposition, of vindication, of refutation, it may be of commendation, and the delight resulting from the general attention which they thus attract. In this manner, unquestionably, many opinions, which are either indifferent, or which are too insignificant and ridiculous to acquire a moment's notice, assume a degree of importance which it would be difficult to understand, and impossible to anticipate. The light hypothesis, the random conjecture, and the casual suggestion, are each converted into grave systematic doctrines, and importunately claim the attention of the practical physician, as involving questions of the first moment, and of the most indispensable necessity to human welfare, and the existence of civil society. If they meet with opposition, it is well;—for this is the first step to importance, and is the invariable preliminary to notoriety. If they meet with applause, it is better; for then is one great object attained; adoption will follow, and proselytes will be numerous. But if the author of a new and singular opinion is neither applauded nor opposed, his case is bad indeed, yet not utterly hopeless. He has still a powerful and ready resource in the love of novelty and liberalism, which prevails especially in medical science, and which forgives a multitude of sins to a system distinguished in any degree by an avowed declaration of novelty, and unprecedented deviation from established doctrines. When an author feels himself perfectly singular, standing alone as it were, in the midst of the profession, as the apostle of a dogma which is believed by none but himself, he has the highest possible reasons for self-gratulation, and can scarcely be withheld, in the reverie of professional enthusiasm, from regarding himself as the founder of a system which is to change the entire face of the science.

Our readers may perhaps imagine that we are here drawing a fictitious character, and that we are merely indulging our imagination in supposing a case which cannot possibly be found in nature. We beg, however, to undeceive them, and we do so by informing them, that Dr Charles Maclean is a living instance of this extraordinary hallucination. It cannot be unknown to most of our readers, that this gentleman is distinguished by carrying the doctrine of non-contagion to its uttermost verge, and that he has long maintained that the plague is not a contagious disease. To avow such an opinion, was at first considered as a sort of wanton speculative affectation of singularity, which was not likely to stand the test of actual intercourse with the disease. When, however, its author boldly exposed his person to the air of a pest-hospital in Constantinople, though his wisdom might be questioned, it could not be doubted that it was a serious and permanent peculiarity of thinking, or perversion of intellect. All this heroic devotion, however, goes not unrewarded. Independent of the conspicuous light in which Dr Maclean appears in those parliamentary investigations which have been instituted on the subject of contagion, he has the supreme satisfaction of declaiming against the prejudiced ignorance of statesmen, and the despotic and obstinate dogmatism of Colleges of Physicians, and of accusing of illiberality, gross superstition, and wilful murder, all persons who do not accede to his principles.

But even these must be trifling and insignificant advantages, compared with the compliment which is paid by those who attempt to examine the justice of his views. The interest which his bulky "Investigation" excited in this country, is nothing compared to the importance which his various speculations have acquired in the eyes of foreign physicians; and while scarcely any one thinks his arguments worthy of a serious refutation, we find Americans, French, Germans, and Italians, setting themselves to investigate, in the most elaborate manner, the various grounds for his opinions. Thus, the New York Medical Repository have deemed his researches worthy of record. Various French periodical works have honoured them with flattering marks of attention. Omodei, the learned editor of the Milan Universal Annals of Medicine, has done him the honour of investigating the grounds, not only of the justice of the idea of non-contagion, but of the alleged assertion that this opinion is of modern origin. But of all his hostile inquirers, Dr Maclean has most reason to be proud of the attentions of the author now before us. Dr Charles F. H. Marx, in the short but comprehensive and sententious Tract before us, treats the question of contagion in a very learned and elaborate manner; and while he confers on Dr Maclean the remarkable distinction of saying, "Quin etiam Maclean ob id memorabilis, quod pestem contagiosam esse negabat," he adduces the fullest evidence to show, that the assertion that the idea of contagion was unknown to the ancients, and is wholly a modern contrivance, is utterly inconsistent with historical facts.

The work consists of a preface, a list of authors and works, and four sections. The first of these is devoted to a succinct, but perspicuous view of the pathology and therapeutics of contagious diseases. In the second, the author gives a historical and chronological sketch of the opinions of the ancients on contagious diseases, in the order of Egyptians, Jews, ancient Persians, Greeks, Romans, and Arabians; and by numerous extracts, proves that the idea of diseases spreading among human beings, and being communicated by touch and contiguity, was quite familiar to most of the ancient nations. In the third section he treats of the opinions of the ancient authors on the causes of contagious diseases, and the means by which they were to be prevented from extending. The fourth and last section consists of the various terms in use among the Greeks and Romans, concerning contagion and contagious diseases, and furnishes a copious and accurate list of authorities to establish the precise sense in which the terms were ordinarily employed. The work, though small in size, is, as we have said, comprehensive, and bears every mark of great accuracy, and very elaborate and extensive research. It is true that the same ground nearly had been traversed by Omodei, the author whom we have already had occasion to mention with respect, and very nearly with the same results. It is true, that by the aid of indexes, such as accompany most of the best editions of the Greek classics, or the Delphin editions of the Roman authors, this line of research is thrown open to every scholar; and what may appear at first sight the result of extensive reading, and intimate acquaintance with the original writers, dwindles into an easy but patient collation of authorities. But it must not be forgotten, that it requires both judgment, and some exertion of the reasoning faculty, to arrange, select, draw just inferences, and make suitable applications. In this respect, the work of Dr Marx is entitled to every praise, and will at all times form an inestimable book of reference to illustrate the ancient literature of pestilential diseases.

We do not propose at present to give any thing like an account of the whole work of our author, or to follow him closely in the exact order in which he investigates the several divisions of the subject. We shall confine our present observations very much to the subject of the second section, as that which is not only possessed of considerable interest, but claims priority of consideration in the history of opinions and principles on contagion and contagious diseases. In the course of these remarks, we shall not scruple to avail ourselves, as far as may be competent, of the learned Essay of Annibal Omodei, already referred to; and we doubt not that sufficient evidence will be adduced to disprove the assertions which Dr Maclean has found it convenient to advance regarding the origin of the doctrine of contagious propagation.

That our readers may understand the nature of the question at issue, we have to inform them, that in the Third Book of his Results of an Investigation respecting Epidemic and Pestilential Diseases, Dr Maclean professes to examine the origin of the doctrine of contagion, and strenuously denies that any traces of it are to be found in any of the ancient authors. Epidemic and pestilential diseases, he admits to have been as prevalent in ancient as in modern times; the plague, he acknowledges, on the testimony of historians, to have committed frequent and great ravages in the territories of Greece and Rome, both during the age of Hippocrates, and after his death; the yellow fever of America, the West Indies, and some parts of Europe, he thinks was not unknown to this physician; but the idea of such diseases depending on contagion, or being propagated by such means, he contends, never occurred to the physician of Coos, or any of his followers.

"After the example of the great father of physic, epidemic maladies were, in former times, uniformly attributed, by the medical faculty, to the state of the air: and even amongst all the various causes, natural or supernatural, true or false, to which they continued to be attributed, by all the nations of the earth, for nearly two thousand years afterwards, it does not appear that they were ever supposed capable of being propagated by means of a specific contagion.

"That the hypothesis of contagion, as the cause of epidemic diseases, should never have entered into the popular superstitions of any Pagan, Mahommedan, or Hindû nation, will probably be deemed a surprising, and scarcely a credible circumstance, by those who are not aware, that these opinions were not always entertained even in Christian communities. It was not until about the middle of the 16th century, that this doctrine, in the manner, and for the purposes which shall be presently specified, was first promulgated, by the highest spiritual authority acknowledged in Christendom; where it not only immediately became of course the creed of the people, but was adopted by the medical faculty, and even embraced, from inadvertence, by the greatest philosophers, and the most eminent historians." pp. 166, 167.

In this loose and summary manner, Dr Maclean disposes of whatever the ancient authors have recorded concerning pestilential epidemics, and their alleged origin. Such a mode of reasoning might appear scarcely deserving a serious answer, much less any elaborate refutation; and as the attack consists in a series of disjointed assertions and assumptions without evidence, they might have been left to fall to the ground, or stand as proofs of the ignorance and bad reasoning of the author, rather than received the additional consequence of formal confutation.

Shortly after, he proceeds much in the same style.

"From the fall of the Roman empire, to the revival of learning in Europe, medicine only participated in the general darkness, which overspread science: and in the interval between the invention of printing, and the middle of the 16th century, that ignorance merely remained stationary. But, at this period, events occurred, which made the world, in respect to epidemic diseases, retrograde into false knowledge. Out of these events incidentally arose the too well known doctrine of contagion, as the cause of this important class of maladies. That this was the precise era of its promulgation and establishment, is rendered manifest by the following facts, as well as by those which are elsewhere stated, in proof of the opinions of the ancient physicians upon that subject.

"The facts to which I allude are these:—that whilst, in books written previous to the translation, on the plea of a contagious epidemic, of the Council of Trent to Bologna, I have not been able to trace any mention of such a cause of epidemic diseases; it is notorious, that, subsequent to that event, every work which has treated of these maladies, has either formally discussed, or gratuitously assumed that doctrine.

"By an ordinance of the police of Paris, dated the 16th of September 1533, I find, that, although houses in which persons were affected with plague, were directed to be marked with a red cross, and persons coming out of them to carry a white wand in their hand, yet the houses were not called *infected;* no apprehension appeared to be entertained of the disease being propagated from one person to another; nor was the word *contagion* once used." pp. 167, 168.

He then quotes the title of a black-letter book, named the "Mirror Glass of Health," to show that epidemic sickness was ascribed not to contagion, but to "pestilent air;" and concludes, that till the year 1547, some time after the translation of the great Ecclesiastical Council called that of Trent, from that city to Bologna, epidemic maladies had been denominated in England simply "Plague," and in France "Peste."

"If I mistake not, the idea of contagion, as connected with plague, or fevers, or epidemic diseases of any description, is not to be met with previous to the 16th century: and if the ancients are ever made to use a language, which may bear that construction, it is, I am persuaded, entirely owing to the industry or mistakes of physicians, commentators, dictionary-makers, or interpolators, of that period, or their successors. At least I must remain of this opinion, until I see some proof of its being erroneous. Peste *afflari; affici; laborare;*—to be *scorched with;* to be *affected with;* to *labour under*, the plague,—were terms commonly used by the ancients. And when we find the English word "*infectious*," translated into Latin, in the Dictionaries, "*pestiferus*," "*morbidus*," "*nocens*," it can scarcely fail to appear a most arbitrary and unwarrantable interpretation, of a word itself employed in an improper sense. Amongst the ancients, even the terms "*contagio*" and "*contagium*," were, for the most part, used metaphorically, to signify contamination, corruption, defilement, &c. as the "lucri contagia" of Horace. If we even admit that the "pecoris contagia" of Virgil, was meant literally to express a disease capable of being communicated by one living body to another, it will still require more evidence than I am at present aware is in existence, to show, that the epidemic diseases of men have ever been considered, by any physician, poet, or historian, or even by any of the vulgar, amongst the ancients, as capable of being propagated by contagion." pp. 180, 181.

It is natural, in the face of this statement, to ask, when was the doctrine of contagion first discovered, and at what exact period of science was it introduced into the systems of physicians? For this Dr Maclean has prepared himself in a new and extraordinary manner. After showing his acquaintance with ancient literature, by denying in general terms that any author ever speaks of contagion, he attempts a similar feat in modern history, by quoting the authority of Father Paul, to show that the doctrine of contagion was discovered no earlier than 1547, on occasion of the sitting of the Ecclesiastical Council at Trent; and gives sundry extracts to prove that the whole was a great political intrigue of Pope Paul III., a sort of state-trick extraordinary, to persuade the delegates of the several powers to assemble at Bologna, where he could more readily mould their measures to his own peculiar views.

"In 1547, it being doubtful whether the Pope had most to apprehend, from the progress of the Reformation, the policy of the Emperor, or the decisions of the Council, if left free, it was finally resolved to carry the measure of translation into effect. A private gentleman, of the family of Cardinal Monte, was sent to the legates, with orders not to arrive at Trent before the opening of the session, and then to give them authority to translate the Council to Bologna, '*making some apparent cause to arise*, or *making use of some cause already in being;* putting it in execution so quickly, that, after the enterprise begun, they should conclude, before any impediment could be interposed.'" pp. 188, 189.

"'The Cardinal Santa Croce was confounded; but Monte, being without feare, said, that he ever knew the Pope to be a wise prince, and that he then saw in him the height of human judgement, that it was necessary to do so, if they would preserve the see Apostolike: and therefore that it was fit to serve his holinesse with fidelity, secrecy, and diligence. And it hapned fitly, that many in the families of the prelats were sicke, either by the disorders of the Carnoval, or because the air had been moist many days before. Monte suborned some to aske the physitians whether those infirmities were not contagious. The physitians, who, in their prognostiques, always say the worst they can, because, if they proove true, they seeme learned, in having foreseene them, if not, they seeme more learned, in remedying or preventing them, spake some ambiguous word, which was studiously spread abroad, and believed by some of the meaner sort.

Some others also were credulous of it, especially those who were willing to depart, and therefore wished it were true. And, after the session, a bishop dying opportunely, interred with the obsequies of the whole Council, made the matter more conspicuous. Whereupon all Trent was full that the disease was contagious, and the fame was spread in all the bordering places. The legats, to show that they had no finger in dispersing this fame, held a general congregation the next day after the session, to digest what should be discussed concerning the Eucharist, and, the weeke following, the congregations of the divines did begin. But the fame being increased, Monte gave order to Hercules Severolo, proctor of the Council, to make a proces concerning the pestilent infirmity. The physitians were examined, and Jeronymus Fracastorius, amongst others, who had the title of Physitian of the Councel, and other persons besides. It was reported, that the neighbour places would have no more commerce with the citie; which made many prelats aske leave to depart, either for feare, or for desire to go from thence by all means. Monte gave leave to some, that their departure might be alledged as one of the causes; others, with whom he was more familiar, he perswaded to tarry, indeed, not to want adherents when he should propose the translation of the Councel, but, in show, that the Councel might not dissolve; and therefore he wished them to require in the congregations, that some order might be taken. The proces was prosecuted until the eighth day; when newes came, either true or fained, that Verona would traffique no more with them: which troubled them all, because they should be as it were all in prison.

" 'Therefore the 9th day, a generall congregation was held concerning this: in which the proces was read, and a proposition made, what remedy might be found that they might not be confined, with a disease in their houses, and deprived of victuals and other necessaries. Many protested they would depart, and could not be held, and, when much had bin spoken, Monte proposed the translation of the Councel, saying he had apostolike authority to doe it from the beginning; and caused the Pope's Bull to be read, directed to the three legats, Monte, Santa Croce, and Poole. In which, having declared that he had established the Councell in Trent, and sent them thither as his legats, and angels of peace, to the ende that so godly a worke might not bee hindered by the incommoditie of the place, he giveth power to any two of them, in absence of the third, to translate it into some other citie, more commodious, opportune, and secure; and commend the prelats, upon censures and punishments, not to proceed any farther in Trent, but to continue it in the citie, unto which they shall transferre it, and to call thither the prelats, and other persons of the Councel of Trent, upon pain of perjurie, and other censures, set down in the letters of the convocation, and that he will ratifie whatsoever they shall doe, any thing to the contrary notwithstanding.

" 'The emperor's prelates answered immediately, that the disease and the dangers were not so great; that the timorous might have eave to goe, until the opinion were past, which, by the help of God, would vanish quickly, and, if the session were deferred, it was no matter: that many departed the yeere before, for the suspicions of warre, and the session was deferred more than sixe months, and that they might doe so now, if there were occasion. And other such reasons they brought. The disputation concerning this was long. When the congregation was ended, the Imperialists, conferring among themselves, and seeking curiously that, which before they cared not to know, they smelt out that it was not a generall disease, but a pretence.' " pp. 189–193.

Now, whatever opinion may be entertained of this specimen of political intriguing, it is manifest that the extract itself furnishes internal evidence that the doctrine of contagion was not then new and unknown. In short, according to the ordinary way of reasoning, it would show quite the reverse; for the very plan of assigning such a reason for transferring the Council from one city to another, shows that the belief of contagion must have been before this period a popular idea. Unless it were so, where was the use of assigning a cause? It could only be by appealing to popular feelings and universal belief, that the reason of such innovation would be held good and sufficient; and the only conclusion that naturally flows from this historical document is, *that the doctrine of contagion already existed in the minds of the public, but was now made subservient, like other good things, to the accomplishment of an evil purpose.*

We shall now see whether evidence of the kind demanded by Dr Maclean can be adduced, and how far the desultory declamation, to which he applies the name of circumstantial evidence, is capable of bearing accurate scrutiny, or strict examination.

Dr Marx begins by observing, that the most ancient traces of the opinion of disease being communicable by touch, contiguity, or contagion, is found among the customs of the Egyptians and the Jews, as they are recorded by sundry ancient authors. Thus Horapollo, a Greek writer whose age is unknown, relates, in his Hieroglyphics from ancient observations, that the dog, when affected with madness, becomes diseased in the spleen, and that those who dissect an animal dying of this complaint, in like manner generally become affected with the same disease, in consequence of smelling or receiving the exhalation of the dissected dog, (οσφραινομενοι της του κυνος ἀνατεμνομενου ἀποφορας); and the same author afterwards states, that during the continuance of a pestilential disposition (ὀυσης λοιμωδους καταστασεως), when every thing animate and inanimate is sickly, or disposed to sickness, those who live on pigeons do not partake of such malady. We do not agree with Dr Marx, however, in admitting as evidence on this subject, the remark of Plutarch, in his life of Antoninus, * that the neighbourhood of the lake Serbonis in Egypt was infested with diseases fatal to the inhabitants of that district. It is manifest, that according to Plutarch, the inhabitants ascribed those disorders not to contagion, but to the humid exhalations of

"that Serbonian bog,
Betwixt Damiata and Mount Casius old,
Where armies whole have sunk."

Justin, speaking of the flight of the Israelites, ascribes that effect to the measures of the Egyptians, who, when polluted with itch and leprosy, expelled Moses with his diseased countrymen from their coasts, lest the nation at large should be infected with the disorder. Lastly, Cicero states, that the bird Ibis was consecrated by the Egyptians, because it was believed capable of protecting them from pestilential diseases, by killing the snakes which brought them from Ethiopia.

That the Jews believed in contagion as a cause of the propagation of diseases, is well established from various parts of the sacred writings. Thus the fourteenth chapter of the book of Leviticus consists entirely of directions for purifying persons affected with leprosy, for cleansing houses supposed to be infected with the plague of leprosy or scall, and for purifying the garments of those who had eaten or slept in the house. The directions in the fifteenth chapter have given rise to some controversy; and have led sundry authors to maintain that the term *running issue*, which is also rendered in the margin *running of the reins*, must be regarded as equivalent to gonorrhæa, and that this disease was by no means unknown at this early period of history. But, whatever opinion be entertained on the nature of the disorders, which were believed in the Jewish ritual to render the affected unclean, it is impossible to doubt that the popular belief was that these disorders could be communicated by contact, and that this belief was the reason of the numerous ceremonies and observances of separation and purification which were enjoined in their political institutions. Thus we find, that not only is the person of the individual himself considered unclean, and directed to be separated from the community, and cleansed with various processes of washing and lustration; but the bed on which he reclined, the stool on which he was seated, and the saddle on which he rode, were declared unclean, and capable of communicating the same pollution to whoever touched them. That these regulations were frivolous, and in many instances unnecessary, is nothing to the question at issue; they show abundantly that it was a popular tenet, that disorders of this nature could be transferred from one to another individual, and that in fact they were contagious or infectious complaints. That they were enforced with great severity, numerous examples in the civil history of the Jews testify. Thus we find Miriam the sister of Moses affected with leprosy, and excluded therefore from the camp for seven days;* and Azariah, when smitten with leprosy, 'dwelt in a several house.' † Such observances appear to have applied chiefly to those external diseases, which could not escape common observation.

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* Chap. III.

Of their views of a proper pestilential disease we have fewer means of forming any opinion; for though pestilence is frequently mentioned in the history of the Israelites, it is rarely noticed under such circumstances as to warrant any very positive conclusion. Pestilence or plague, for example, is said to be the instrument of destruction, when those who were discontented with the land of Canaan died in the wilderness; ‡ plague is said to have been the disorder which killed fourteen thousand seven hundred persons for murmuring against Moses and Aaron; § and in the reign of David, 1017 before the Christian era, seventy thousand persons are said to have been destroyed by pestilence in three days time. Now it must be admitted, that the sudden mode in which the two last epidemics are said to have appeared, the rapidity with which they proved fatal to a great proportion of the community, and their short duration, not only prevent us from referring them confidently either to plague, epidemic fever, or any other disease which appears epidemically in the present state of the habitable globe, but affords no elements whatever to ascertain whether they depended on the state of the atmosphere, the surface of the country, or the condition of its living inhabitants. Very nearly the same may be said of the disease, whatever it might be, which slew one hundred and eighty-five thousand persons in the encampment of the Assyrians in a single night. It may be remarked, that no known distemper in modern times is distinguished by this rapidity of destruction, unless the Asiatic cholera can be said to deserve such pre-eminence; and to this idea an obvious objection presents itself in the time during which it continued its ravages.

We adduce these facts and arguments, because it is our wish to place the question of contagion as a means of propagating epidemic distempers on the fairest possible ground; and because it is but just to examine every circumstance which may be urged as an objection to the antiquity of the opinion which ascribes pestilence to such a cause. But though it cannot be said that they attached any definite idea of contagion to the word which they used to signify plague, they appear throughout to have ascribed infectious properties to leprosy; for we find this term is again used in the ninety-first Psalm to denote a disease from which it was requisite to solicit the protection of heaven.

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* Numbers, xii. 15.

† 2 Kings, xv. 5.

‡ Numbers, xiv. 37.

§ Numbers, xvi. 46-49.

Nearly similar notions appear to have been entertained of leprosy and the white scall, (λευκη, *vitiligo*), by the ancient Persians, who, according to Herodotus, refused to hold any intercourse with a citizen affected with these disorders, and banished a stranger in similar circumstances from the territory. (Klio, 138). Ctesias also of Cnidos, who was physician to Artaxerxes Mnemon after the battle of Cunaxa, testifies that a leprous person was avoided by all. (πασιν απρoσιτος).

Among the Greek authors, speaking either in their own persons or the customs of their countrymen, the traces of a belief in the contagious nature of diseases, are neither very early nor very distinct. Dr Marx adduces the well known history of the hydra-daughter of Typhon and Echidna, recorded in the Theogony of Hesiod, as inhabiting the Lernæan lake, as a proof of the malignity of the vapours issuing from marshy ground and stagnant waters,—and the mythological feat of Hercules branding the heads as they were cut, as a proof of the efficacy of fire in destroying such noxious exhalations. But we have no wish to press into the service as evidence, narratives which at best are mere elegant fictions, and will be more justly prized for the manly beauty and simplicity of the language in which they are told, than for any substantial service which they can render to the history of science. If any inference of this nature is to be derived from them, we think that is the most natural which was given more than a century ago by Lancisi, who has thus anticipated all others in the interpretation to be given of the story of the Lernæan hydra. We shall probably have occasion to show in what manner this and other similar instances are to be viewed.

The pestilence (λοιμος) to which Homer ascribes the destruction of mules, dogs, and men, in the first book of the Iliad, is also mentioned by Dr Marx, not as an instance of a contagious disease, but as an example of a distemper ascribed by the later Greeks to the noxious exhalations raised from the earth during great solar heats. This malady is represented as raging for nine days in the army.

> Ἐννημαρ μεν ἀνα ϛρατον ἐπωχετο κηλα θεοιο.

But nothing in its history throws any light on the question, whether it was believed to be contagious or not.

The next authority to whom Dr Marx refers, is the father of physic himself; and in his writings, it must be acknowledged that our author has searched in vain for any traces of the opinion of the contagious property of diseases. To what this is to be ascribed, it is impossible at this distance of time to say, unless it be, that the habit in which the Greek physician was of looking to the state of the air, the physical peculiarities of towns, and the nature of the water with which they were supplied, prevented him from admitting the operation of other agents in the formation of disease. Omodei, who appears to be intimately conversant with this department of literary history, admits that the doctrine of contagion was entirely unknown to the Greek, Roman, and Arabian physicians, yet that it was understood by the ancient historians and philosophers. "Medical history," says he, "presents, with respect to contagious distempers, a fact quite as singular as it is true,—which is, that the historians and philosophers not immediately trained in the school of Æsculapius, came to understand the contagious propagation of plague by touching the diseased, and by fomites, a considerable time before the most eminent masters of the healing art adopted this idea;" and he quotes, in support of this opinion, the authority of Thucydides, Aristotle, Dionysius the Halicarnassian, Livy, Diodorus the Sicilian, Appian, Ammianus Marcellinus, and Evagrius of Constantinople.

At the mention of plague among the Greek authors, the classical reader naturally recals the eloquent descriptions given by Thucydides and Sophocles,—the former the most polished of historians, the latter unquestionably the first of tragic poets. We learn from Thucydides, that the general belief was, that this disease came from Ethiopia beyond Egypt; that thence it descended on Egypt and Lybia, and a great extent of the territory of the Persian King, and lastly fell suddenly on the city of the Athenians. He remarks particularly, that it first *touched* or infected (ἥψατο) the inhabitants of the Piræus,—which led to the report among them, that the Peloponnesians had poisoned the wells, for the fountains were chiefly in that part of the city; afterwards, however, it proceeded to the upper part of the city, where it proved fatal to much greater numbers. It is evident, we think, from this mode of describing the progress of the disease, in which Thucydides avowedly follows the current reports, and especially from his using the term ἥψατο or (*touched*) to denote its first appearance among the inhabitants of the Piræus, the sea-port of Athens, that the popular belief of the distemper was, that it spread contagiously. It is of no sort of consequence to the question, whether the account which he subsequently gives of the symptoms applies to the oriental or glandular plague, or to an epidemic, ardent, or continued fever; it is sufficient to show that it was currently believed that it spread contagiously. But if it be objected, that even this passage does not warrant the conclusion which is here stated, the matter is put beyond a doubt by a fact related by the historian in the fifty-eighth chapter, when speaking of the siege of Potidæa. This was a town of Macedonia, situate on the peninsula of Pallene, which it was of much consequence for the Athenians to hold, and which they had actually in a state of blockade. Two of their leaders, therefore, Agnon and Theopompus, colleagues of Pericles, advanced on the place with fresh forces, brought their engines against it, and made every effort to take it by storm. They were, however, completely unsuccessful; for the disease appearing there, made such havoc among the Athenians, destroying their army, that the troops of the Athenians who were there previously in perfect health, became diseased from the army which accompanied Agnon. * He therefore returned to Athens in his ships, after having lost fifteen hundred from four thousand soldiers, in the course of forty days. That this disease was believed to spread, or be propagated by contagion, is to be inferred from two circumstances particularly specified in this story;—the first, that the soldiers engaged in the blockade of Potidæa were believed to derive their disease from those whom Agnon had brought from Athens;—the second, that they conceived it requisite to withdraw from the place, and leave the blockading forces before it, that they might not be instrumental in spreading the disease among them.

Sophocles flourished much about the same time as the historian of the Peloponnesian war; and as the great plague prevailed above 430 years before the commencement of the Christian era, Sophocles who died in the 406th year before this period, must have been an eye witness of its miseries, and of the havoc which it caused. There is therefore the strongest reason to infer that the descriptive allusions which he introduces into his Œdipus Rex, and which form part of the plot of this interesting tragedy, were derived from personal observation of the great Athenian plague, if not from epidemics of the same kind, which occasionally prevailed in the city and territory of Attica. Dr Marx has quoted several passages in confirmation of the notion, that pestilence was believed by the Athenians to be contagious, but we do not think with very decisive success,

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* Τους προτερους στρατιωτας νοσησαι των Αθηναιων απο της ξυν Αγνωνι στρατιας, εν τῳ προτον χρονῳ ὑγιαινωντας.

Thus he remarks, that the poet makes Œdipus describe the progressive havoc of the disease by saying that, " the fire-fraught god, the hated pestilence oppressively destroys the city" (ἐνσκηψας ἐλαυνει πολιν); and he quotes the answer of Creon, " Supreme Phoebus evidently ordered us to expel from the territory, the pollution (μιασμα) reared in this land, and not to sustain an inexpiable thing;" and a sentence from a speech of Œdipus, in which the same sentiment is expressed. None of these passages can be made according to our ideas of the original text and context, to prove with certainty the existence of the belief of contagion. The first passage is very doubtful, if not completely incompetent to prove such an inference. There is nothing in the participle σκηψας, either by itself or with the preposition ἐν prefixed, or in the verb ἐλαυνει, which can by any means be made to apply to the progress or effects of a contagious disease exclusively. The term μιασμα, Dr Marx is not to be told, signifies in the original simply *pollution*, or that species of contamination which results from an atrocious crime or sanguinary deed; and it is manifest that both Creon and Œdipus attach this meaning to it. It may be deemed a frivolous superfluity to remark, that the signification given to this word by modern physicians is quite arbitrary, and utterly different from that in which it is used in the pure authors of the language of ancient Greece.

But it was unnecessary to have recourse to the tragic poet for the purpose of establishing this conclusion, which we have already seen flows naturally enough from the language of Thucydides; and if another testimony is required, we think that of Plutarch ought not to have been omitted. This author, in his biography of Pericles, has occasion to refer to the same events which are recorded by Thucydides; and he gives a short notice of the Athenian plague, of the effect it produced on the public mind, and of the embarrassment and difficulty which it caused to Pericles in his administration of public affairs. Dr Marx does indeed refer to this account, but it is merely for the purpose of noticing the popular belief, that this sickness was occasioned by the multitudes which had been assembled during the summer season from the country, and were compelled to live in small dwellings and suffocating apartments, where they respired the same contaminated air. Though this is certainly making some approach to the doctrine of contagion and infectious fever; yet it is greatly less pointed than the language which the biographer uses at the conclusion of the same sentence. " The populace," he says, " accused Pericles of being the cause of this pestilential distemper, because he had collected the people from the country within the walls, in a state of inactivity and confinement like cattle, to be filled with *mutual corruption*, (ανα πιμπλασθαι φθορας απ᾽ αλληλων,) and because he gave them neither change nor refreshment." It is manifest that the author, by using the expression (φθορα απ᾽ αλληλων) or *corruption from each other*, meant to say, that so many human beings assembled in a small space contaminated the air so much as to be the cause of mutual injury to each other; and it is equally manifest, that he used the term ἀναπιμπλασθαι, to show that the persons so situate had received a full dose of this contagious power, whatever it might be. Indeed, it is remarkable, that the same term is employed by Thucydides while speaking of the dreadful mortality occasioned among those who attempted to perform friendly offices to the sick; * by Aristotle, as we shall show in his Problems; and by a more recent author J. Cedrenus, one of the Byzantine historians, in his account of a pestilential sickness in Constantinople.

The facts which we have now adduced may suffice to show, that so early as the great Athenian plague, that is about 430 years before the Christian era, it was generally believed that during the prevalence of an epidemical sickness, the disease was communicated among persons who were contiguous, or in other words, was propagated by contact. It is probable that the observation of that epidemic particularly, and perhaps of subsequent ones of less consequence, led the ancient philosophers and historians to convert this opinion into an established principle; for we find Aristotle, about a century after proposing as subjects of inquiry,—why pestilence (ὁ λοιμος) alone of all diseases at one time chiefly infects (προσαναπιμπλησιν) those that approach the diseased; why at other times it is common to all; and ascribing this to bad habit of body; for, says he "by means of the fuel (το ὑπεκκαυμα της νοσου *propter fomitem morbi*) of the disease, such persons are more quickly caught or taken by the event." It is not difficult to recognise, in this acute distinction introduced by the Stagirite, the germs of that theory of infectious diseases which has in modern times distinguished their causes into procatarctic or disposing, and essential, constituent, or exciting. The notion of a proper fuel, or *fomes*, as it has been termed in the medical language of the modern schools, could have originated only with a mind of that acute, sub-dividing, and metaphysical habit of thinking, by which the founder of the Peripatetic sect was so much distinguished. He appears on the same principle to have satisfied himself as to the mode in which persons who approached those labouring under consumption, ophthalmia and itch, were affected with these diseases.

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* δεινοτατον δε παντος ᾽ην του κακου, ἡ τε ἀθυμια, ὁποτε τις ἀισθοιτο καμνων, προς γαρ το ἀνελπιστον ἐυθυς πραπομενοι, τη γνωμη, πολλω μαλλον προιεντο σφας αυτους, και ουκ ἄντειχον, και ὁτι ἑτερος αφ᾽ ἑτερου θεραπειας ἀναπιμπλαμενοι, ὥσπερ τα προβατα, ἐθνησκον. Thucydides II. 51.

It is in the writings of Dionysius the Halicarnassian that we find the next mention of pestilential diseases, some of which at least were believed to be propagated in the manner of contagious distempers. This writer, whose Roman antiquities contain an interesting and authentic account of the ancient affairs of the Roman commonwealth, records three instances of pestilential disease occuring in Rome, or the Roman territory.

The first of these took place in the consulship of L. Pinarius and P. Furius, which corresponds to the 282d year after the foundation of the city, was felt over Italy, but most severely at Rome, where it spared neither age, sex, condition, nor bodily strength, came on suddenly, advanced with rapidity, and disappeared as rapidly. The manner in which its approach and effects are mentioned, shows the opinion that was entertained of its nature. "But the designs of Volero," says Dionysius, "which were tyrannical, were arrested by the concurrence of another calamity sent from heaven; for a pestilential disease *touched* the city, being felt indeed through the rest of Italy, but with greatest violence at Rome." And afterwards, he remarks, "the distemper made no distinction of age, or sex, or strength or weakness of constitution, nor was under the influence of the means of art, or of those things which are thought to alleviate its severity, but it fell on women and men, old and young, indiscriminately." [*] There is little doubt that the term ἥψατο (touched, caught, or infected) is used here in reference to the supposed nature of the distemper. We shall have occasion to see that it is used in this sense, in passages where the context does not admit of any doubt.

The second pestilential disease mentioned by Dionysius took place during the consulship of Lucius Aebutius, and Publius Servilius Priscus, A. U. C. 291.[†] It is described as "first attacking the herds of mares and oxen, proceeding from these to the flocks of goats and sheep, and destroying almost all the quadrupeds; thence it caught (ἥψατο touched, infected) the shepherds and husbandmen, and passing through the whole district, fell upon the city itself." Its mortality was extreme; the fourth part of the Senatorian order was destroyed, and among the rest both the consuls and the greater part of the tribunes. [‡]

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[*] Antiquitat. Romanor. lib. IX. XLII.

[†] See p. 129.

[‡] Ibid. lib. IX. LXVII.

The third pestilential sickness described by the historian, occurred in the consulship of Publius Horatius and Sextus Quintilius, in the eighty-second Olympiad, and three hundred years after the foundation of the city. It is said to have been the greatest that ever was remembered, since by it almost all the slaves perished, and of the other citizens at least the half was destroyed, neither physicians being longer able to succour the sick, nor domestics or friends being adequate to perform necessary duties. The reason which Dionysius assigns is curious, and deserves particular attention. " For those who wished to alleviate the sufferings of others, by touching and having intercourse with the persons of the sick, caught the same distemper, so that many houses became desolate by want of attendants. " * This mode of expression shows very obviously that the disease was believed to be communicated by its contagious properties; but the subsequent detail shows to what extent this belief was carried. " Not the least of evils to the city, and a cause of the disease not quickly subsiding, was the manner of disposing of the dead; for at first from decency, and abundance of materials for funerals, they burned them and deposited them in the earth; but afterwards some from want of decency, others from want of means, threw many bodies into the common sewers, and still more into the river; from which floating back on the strand and banks, the greatest evils resulted. For the heavy putrid exhalation wafted by the wind to those still in health, effected a rapid change in their persons. " The notion of a vapour issuing directly from the bodies of those who had died with the disease, affecting those in health, so as to prolong and extend the epidemical sickness, shows clearly enough that the ancients, both Greek and Roman, for Dionysius was a Greek, writing the history of Romans, had formed some pretty distinct ideas of the nature of contagion and infection. He subsequently states that the peasantry were affected from the sheep and other animals with which they were in daily neighbourhood.

Diodorus the Sicilian is the next author to whom Dr Marx refers; but we doubt whether with the same justice with which we have seen he can appeal to Dionysius of Halicarnassus. Indeed he makes only two quotations, or rather references; in the first of which—the great Athenian plague—the author ascribes the disease to the joint operation of putrid vapour from stagnant marshy situations, and a numerous assemblage of human beings accumulated in the same place during the dog-days.

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* Antiquitat. Rom. lib. X. LIII. Ibid.

It is true, that after stating the want of the Etesian or annual breezes, by which the summer heats were moderated, as a third cause, he says, that in consequence of the extreme heat, and the inflamed state of the air, the persons of men, deprived of the usual means of cooling, became polluted (λυμαινεσθαι συνεβαινε);[*] but he nowhere, in describing the phenomena or causes of this pestilential sickness, employs the same unequivocal language which we find in the author last mentioned. Dr Marx is, however, more fortunate in his second instance, which is that of the epidemic which attacked the Carthaginian army in Sicily, under the command of Himilco and Mago, during the ninety-sixth Olympiad. For although Diodorus adheres to his system of ascribing the disease to the low and marshy situation of the encampment during a hot season; yet he afterwards speaks of it as a sickness depending on the contiguity of a great multitude of human beings assembled together, and tainting the air of the place. Thus, he describes it as "commencing with the Lybians, who died in great numbers; that at first they interred the bodies, but afterwards, as the mortality increased, they neglected this salutary duty,—because the attendants being seized, none dared approach the sick. The stench of the unburied carcases, and the putrid vapours of the marshes, also modified the disease, causing first catarrh, and afterwards swellings round the neck." The rest of the delineation is very interesting, and bears every mark of accuracy. But the most remarkable circumstance which the historian records, pertaining to our present subject, is, that "all who sat by the sick fell into the same disease; και γαρ ὁι τοις καμνουσι παρεδρευοντες ἐνεπιπτον ἐις την νοσον ἁπαντες; so that the calamity of the diseased was rendered dreadful by the want of attendance; for not only did those not connected abandon each other; but brother was obliged to forsake brother, and the friend his companion, through fear for their own safety."[†] We shall afterwards take occasion to show how closely Livy approaches to this statement, in his description of the same epidemic.

Of Plutarch, the next authority quoted by Dr Marx, we shall not take any farther notice, than merely to say, that he speaks of ophthalmia, lippitude, consumption, dropsy, elephantiasis, and hydrophobia, as if they were propagated by contagion.

Appian was a Greek historian of Alexandria, who flourished about the 120th and 130th years of the Christian era, and wrote a chronological history of the military affairs of the Romans, and of the various nations which fell under their yoke. In his account of the Illyrian wars, he mentions a pestilence in consequence of noxious vapours from the soil, with great mortality of the Autarians, one of the Illyrian tribes. In this condition, he represents them as fleeing from their homes, and carrying about the plague in their persons; and as none would admit them, through fear of being smitten (ὀυδενος δεχομενου δια τουτο το δεος), * they fled twenty-three days journey into the marshy and desert territory of the Getæ. He afterwards adds, that the Celts, who about the same time ravaged their possessions, having caught the pestilence, fled; (του λοιμου μετασχοντες εφυγον). †

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[*] Bibliotheca Historic. lib. xii. 58. p. 518 and 516.

[†] Bibliotheca Historic. lib. xiv. 71. p. 697 and 131.

The next in chronological order would be the medical authors of the Hippocratic and Alexandrian schools; but in order to preserve the train of evidence unbroken, we shall introduce here what our author has collected from the civil historians of the latter ages of Grecian literature; and the ecclesiastical writers, who flourished during the first five centuries of the Christian era. Among the former there is one only, Dio Cassius, a native of Nicæa in Bithynia, who is known to have flourished about 230 years after the birth of our Saviour, under the emperor Pertinax and his three immediate successors Severus, Caracalla, and Geta. In the remains and fragments of this author, mention is made of several pestilential diseases, but among others, one is particularly noticed as presenting distinct proofs of its contagious property, under the emperor Commodus in the 942nd year after the foundation of the city, which corresponds to the 189th year of the Christian era. The pestilential sickness at this time, he represents as much more violent than he had ever known it, for often in a single day, two thousand persons died of it at Rome. But the most remarkable circumstance in this notice is, that its contagious nature was believed, whether justly or not, to be established on the faith of experiments, which, though performed by the most nefarious of human beings, would in modern times have done credit to the most enlightened and ingenious anti-contagionists, "Many persons besides," continues Dio, "not only in the city, but in the whole Roman empire, were put to death by wicked wretches, who, for a stipulated reward, dipt small needles into the pestilential poison, and thus communicated this fatal disease to others."

Among the ecclesiastical writers Dr Marx adduces the authority of Eusebius, bishop of Cæsarea (A. D. 337-340), Gregory the bishop of Nyssa, the author of the Nicene creed, (A.

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* Appian de rebus Illyricis, cap. iv. p. 833.

† Ibid. p. 834.

D. 396,) and Evagrius, who appears to have been an Egyptian monastic of Pelagian principles, (A. D. 536–590): and the list is terminated with Procopius of Cæsarea, the historian of the reign of Justinian, and Cedrenus an obscure writer of the eleventh century.

The first of these authors flourished at a period when plague appeared at Alexandria; and as he describes its propagation and effects, he remarks the difference between the conduct of the Christians and that of the Gentiles, the former of whom, through charity and kindness, freely exposed their persons in rendering offices of duty and attention to the sick, and in many instances were attacked with the epidemic; while the latter, through fear of its contagious nature, chose rather to abandon their friends, and thrust the sick from the door, than expose themselves to death which they could by no means avoid.

From the holy father Gregory of Nyssa, our author informs us, we learn two remarkable facts;—one, that in his time there were great numbers who accounted many diseases contagious, and fearfully shunned persons affected with such distempers; the other, that those who presided over the primitive Christian churches, influenced by a pious sense of humanity, strove to persuade others, that diseases of this nature were entirely destitute of contagious properties, that the suffering poor might not be abandoned by their fellow-creatures. In his second oration, the venerable bishop particularly inculcates the duty of benevolence and attention to the sick poor, exclaims against the barbarous custom of driving leprous persons, like dogs or declared enemies, out of society, and that they ought not to be excluded from fountains or rivers upon the pretext of tainting the waters. In his zeal to show the groundlessness of the dread of contagion, and its inhuman cruelty and impiety, he employs a singular method of reasoning. "Some diseases," says he, "as pestilential attacks, and such as depend on an external cause, when they proceed from corruption of air or water, are suspected by many, of passing from those previously affected, to those who approach them. The disease, however, does not, as I think, communicate the sickness by contagion; but while the common attack produces similarity of sickness, the disease arises from those who had first taken it, and proceeds to the others. Hence, therefore, the disposition to this complaint being established, and the blood undergoing a certain degree of corruption from the confusion of destructive fluids, the disease is confined to the individual patient. That this is the case, may be inferred from the following: Do the sick derive any better health from communicating with the sound, though they continue under the best management? By no means. So also it is probable that the disease does not pass from the sick to the sound." * In this train of reasoning, if a passage where more than one *non-sequitur* occurs can be termed reasoning, we observe some approach to the distinction between previous disposition and actual disease, which was introduced by Aristotle; but it is so much mystified by gratuitous or unnatural conclusions, and misapplication of analogy, that it is impossible to view it in any other light than as a literary and logical curiosity.

During the reign of the Emperor Justinian 540 years after the birth of Christ, a pestilential epidemic, reported as usual to have issued from Ethiopia, or Egypt, spread over almost the entire surface of the habitable globe, and prevailed at Constantinople, the capital of the Eastern empire, for four months, during three of which it was remarkably virulent and caused enormous havoc. This epidemic distemper has been described by two historians, Evagrius, and Procopius, who, however, differ so much, that the former maintains its contagious nature, which the latter as strenuously denies. Their respective differences will be best understood by referring to the accounts of each. "The different modes of catching the distemper," says Evagrius, "exceeded all description. For some perished by meeting only and conversing with the sick; some by touching them only; and some by entering the house in which they were; others again were affected in the market-place; and several who had fled from sickly cities, remained well, yet communicated the disease to persons not previously affected. Others again took it not at all, though they were living with many sickly persons, and handling not only the diseased, but even the dead." † The account of Procopius differs much. "The attendants of the sick distresed with incessant labour underwent the most intolerable sufferings; for which all pitied them not less than the diseased; not that they were attacked with pestilence from approaching the sick; for it happened neither to physician nor to ordinary persons to be affected by touching the sick or the dead; since many who were even employed either in burying or in attending those not connected with them, continued their offices contrary to expectation; and many on the contrary, seized unexpectedly with the disorder, forthwith expired;—but because these attendants were distressed with much shocking drudgery." *

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* See extract in note (5) p. 84.

† Χαὶ τὰ ἐς τας μεταλήψεις δὲ διαφορὰ, καὶ λόγον ὑπερβαίνοντα. Οἱ μὲν γὰρ τῷ συνεῖναι μονὸν καὶ συνδιαιτᾶσθαι ἐφθείροντο. Οἱ δὲ, καὶ προσαψάμενοι μονον. Οἱ δὲ, καὶ εἴσω τοῦ οἰκήματος γενόμενοι. ἄλλοι δὲ κατὰ ἀγορὰν· ἔνιοι δὲ ἐκ νοσούσων πολεων πεφευγότες, ἀπαθεῖς μεμενηκασι, τοῖς οὐ νοσοῦσι, τῆς νοσου μεταδόντες. Οἱ δὲ τὸ παράπαν ὀυχ᾽ ἥλωσαν· πολλοῖς δὲ συνδιαιτηθέντες νοσοῦσι, καὶ πολλᾶν οὐ νοσούντων μόνον, ἀλλὰ καὶ τετελευτηκότων προσαψάμενοι.

In contrasting these two accounts, and weighing their evidence, it is quite unnecessary to imitate our author in giving the palm of veracity and accuracy to Evagrius, because, while young, he actually laboured under the disease; nor is it requisite to say, that the very description given by Procopius shows the epidemic to have been genuine glandular plague, and that, by consequence, it must have been contagious, notwithstanding his assertion of the contrary. Either extract abundantly proves the point to be established;—the first, by affirming that the disease was conveyed by contact, shows the popular belief in the contagious nature of the disease;—the second, by denying that it was so conveyed, implied that this was acknowledged to be a mode in which the disease might be propagated.

The last authority adduced by Dr Marx is that of Cedrenus, who mentions a pestilential epidemic issuing, as usual, from Ethiopia, and ravaging the earth, while the emperors Gallus and Volusianus were invested with the purple. No city of the West escaped this scourge; some were twice infected; it continued fifteen years, beginning in autumn, and terminating about the rising of the Dog-star. It is worthy of note, that to this writer, who is sufficiently obscure in all other respects, we are indebted for preserving the memory of a fact which is found no where else, and of which, so far as relates to the doctrine of contagion, he is perhaps the original observer. He not only mentions the usual fear of catching the disease, and the circumstance of benevolent individuals being attacked by it during the performance of their humane attentions; but he further represents it as communicable by mere looking, and, above all, from the clothing of the sick.† This is perhaps the first distinct example of the idea of a disease being conveyed in the form of a subtile, poisonous, or contagious matter, lurking in the garments of those who had been affected with it. It is of itself quite sufficient to prove, that the doctrine of contagious matters was understood at least before the eleventh century.

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* " Αὐτοὺς θεραπεύοντες, καμάτῳ ἀπαύστῳ ἐχόμενοι, τὰ ἀνήκεστα ἐς ἀεὶ ἔπασχον, διὸ δὴ ἅπαντες αὐτοὺς οὐχ ἧσσον ἢ τοὺς πονουμένους ᾠκτίζοντο. οὐχ ὅτι τῷ λοιμῷ ἐπιέζοντο ἐκ τοῦ προσιέναι (οὔτε γὰρ ἰατρῷ οὔτε ἰδιώτῃ μεταλαχεῖν τοῦ κακοῦ τοῦδε τῶν νοσούντων ἢ τῶν τελευτηκότων ἁπτομένῳ ξυνέβη· ἐπεὶ πολλοὶ μὲν ἀεὶ καὶ τοὺς οὐδὲν σφισὶ προσήκοντας ἢ θάπτοντες, ἢ θεραπεύοντες, ταύτῃ δὴ τῇ ὑπουργίᾳ παρὰ δόξαν ἀντεῖχον· πολλοὶ δὲ, τῆς νόσου ἀπροφασίστως αὐτοῖς ἐπιπεσούσης, εὐθὺς ἔθνησκον), ἀλλ᾽ ὅτι ταλαιπωρίᾳ πολλῇ εἴχοντο.

† μετεδιδο το δε ἡ νοσος ἀύτη ἀπό τῶν ἱματιων.

To the medical reader, Aretæus of Cappadocia cannot fail to be well known as the author of a luminous treatise on agues, and the patient and watchful observer of the operations of nature. Dr Marx admits, that, like the other physicians of the Hippocratic school, he treats not of contagion in any express treatise; yet he contends, that sundry passages in the writings of this Greek, prove him to have been impressed with the belief, that the propagation of diseases depends in some instances on contact, contagion, or infection. In the first example, however, which Dr Marx adduces, we cannot help thinking he has mistaken the meaning of Aretæus. The passage is as follows;—ἐμοι δε δοκεει ἀυτεου τοῦ πνευματος μουνου το κακον ἐμμεναι ἀνευθεν του σωματος τινος φλεγμονης· ἔστι δὲ οὐ μέγα τὸ θωῦμα. καὶ γὰρ ἐν χαρωνίοισιν αἱ πνιξεις οὐ σωμάτων πάθει ὀξύταται γίγνονται, ἀλλὰ καὶ μιᾷ εἰσπνοῇ θνησκουσι ἄνθρωποι, πρὶν τὸ σῶμα κακόν τι παθέειν. Now it is manifest, that Aretaeus here expresses his opinion merely of the air of any place killing directly, without causing any inflammation, that is, simply by suffocation. And he immediately assigns what he conceives to be the reason of such sudden death, by adducing the instance of the accidents of the Charonian ditch,—a place in Italy from which, we are informed by Pliny, the most deadly vapours issued. As Aretaeus remarks particularly, that persons died by a single inspiration, before any disease was induced, it is obvious that he supposed them to expire in consequence of suffocation. Modern chemistry, with the knowledge of the physical surface of the country, would suggest the inference that the vapours of the Charonian ditch were chiefly carbonic acid gas. Two other quotations do not appear to us to bear on the question, and we omit them. In a third and fourth, the expression is less equivocal. The one is from the delineation of elephantiasis, which has been alternately celebrated as a great effort of semeiographic painting, and condemned as an exaggerated assemblage of all the most loathsome distempers of the skin, and deformities of the countenance. After concluding his picture, with its most frightful and disgusting features, he exclaims, "From such persons, therefore, who would not flee, who would not turn away, be he son, or father, or brother! for there is fear of partaking the disease." Afterwards, when speaking of the same disease, he terms it "unpleasant, and frightful to see; and it is dangerous to live or communicate with the affected, not less than with those tainted with the plague; for in community of respiration, there is an easy mean of infection" (ἀναπνοῆς γαρ ἐς μετάδοσιν ῥηϊδίη βαφη.)

Opinions not unlike appear to have been entertained by Galen, not only with regard to pestilence, but in the case of itch, ophthalmy, and even consumptive wasting; with persons affected with either of which, he represents it as hazardous to associate, for there is danger lest such persons who do not avoid such intercourse should catch the disorder. It is remarkable, however, that his opinions on that subject appear to be neither precise nor perspicuous; and, as in all his writings, the principles which he has left on record are so much tinged with visionary theories, that it is difficult, and almost unsafe, to make any use of them.

Paul of Aegina, who flourished about 670 years after the birth of Christ, wrote principally on external and local diseases. The only proof which our author has been able to adduce of the opinions which he entertained, occurs in his observations on Elephantiasis, which he follows Aretaeus in considering as not less contagious than plague; and, consistently with this belief, he orders, that persons affected with it should live remote from cities, in intermediate, cool, and thinly peopled districts, by which they will at once enjoy better air, and not infect others with the distemper; (*και ὀυκ ἀν μεταδοῖεν αλλοις του κακῦν.*) *βιβλία ἑπτα.* lib. iv. 1. p. 131.

After the time of Paul of Aegina, the traces of the doctrine of contagion appear to be few and indistinct; for Dr Marx acknowledges, that but few are found in the writings of Aëtius; and from the specimens which he gives, it is manifest that they are not satisfactory. One from Oribasius indicates what many of the ancients had noticed, the insalubrity of marshy situations, and their pestilential effects during the summer season,—but without mention of contagion; and he avows, that he was equally unsuccessful in the writings of Palladius, of Alexander of Tralles (4th century), of Theophanes Nonus, the Byzantine historian, in the remains of Synesius, (5th century), and of Actuarius the Greek physician of Constantinople, who flourished according to some about 1110, but according to others about the end of the 13th century. These authors, he remarks, when treating of diseases to which all antiquity ascribed contagious properties, for instance plague, leprosy, elephantiasis, lippitude, consumption, mentagra, and itch, ascribe them to yellow or black bile, viscid and glutinous phlegm, and similar imaginary conditions; but never insinuate even that they might be communicated by contagion. Dr Marx admits this to be an oversight or defect which cannot be dissembled by those who contend that the ancient authors had some knowledge at least of the doctrine of contagion, and he regards it of sufficient importance to require explanation. In the first place, he remarks, the ancients were more attentive to the symptoms than the causes of diseases; secondly, when they did investigate the causes of disease, most of them were so much involved in the fanciful doctrine of the agency of the fluids, which were variously denominated in the several schools, that they omitted to enumerate those causes, the operation of which could not be explained according to this system; lastly, as they never thought of a disease, without thinking of its apppropriate medicines or remedies, they appear to have overlooked contagion, for which there was no resource, but excluding the affected from the intercourse of society, a measure which fear, superstition, the spirit of public liberty, and even a sense of humanity renders equally impracticable.

Whether these reasons are sufficient to explain the matter, and whether the matter requires explanation, we leave our readers to judge. It is sufficient to know the fact, which indeed appears to be nearly as Omodei states it, that while the idea of contagion, as a means of propagating sundry diseases, was perfectly familiar to the ancient historians and philosophers, most of the physicians and professed medical writers overlooked it, or thought it too uncertain to obtain a place in works avowedly scientific. Rigid criticism would object to this, that it did not account for the historical writers remarking what the medical authors had omitted; but, if the different circumstances of these two orders of observers, and their respective objects in writing, be considered, it will not appear wonderful, that historians admitted into their works popular opinions which were excluded from those of professed medical authors. The historical writers who recorded public transactions, and who have left the most authentic pictures of pestilential epidemics, either witnessed them, or similar to those which they describe; and in consequence of this, their attention was more forcibly and directly fixed on the disease, its progress, and the phenomena of its prevalence. It is indeed chiefly in such circumstances that the mind is led to infer the existence of a contagious property, or an infecting agent; and in general mankind, whether polished and refined, or rude and uncultivated, are sufficiently prone to incorporate with narrative, all such circumstances as are most remarkable and general, without distinguishing them into matters of fact and matters of opinion. It is in this manner, we conceive, that we are to explain the circumstance of the contagious propagation of pestilential epidemics, being generally noticed by historical authors in their account of popular facts and public events. The physician, on the other hand, may pass many years of a long life without seeing a very remarkable epidemic, or he may be among the number of victims to its fury, either of which circumstances would be equally inconsistent with correct observation of the manner in which an epidemic extended its ravages. The writers, in whose pages Dr Marx was unsuccesful in finding traces of the doctrine of contagion, probably did not come in contact with any great epidemic, and might therefore omit the mention of contagion, for no other reason but because it was not presented to their personal observation. We cannot deny that Omodei ascribes this silence of the medical writers, on the subject of contagion, to their blind imitation of Hippocrates and Galen, who ascribed all pestilential disorders to the state of the air and winds.

When we come to trace the history of opinions on contagion among the Romans, we meet with proofs of more precision and certainty of expression at least, than we find in the early or even the later writers of Greece. Among the latter, as we have seen, it is sometimes by implication only that we discover their notions of the operation of contagion; the Roman authors, on the contrary, generally use definite and unequivocal terms; and in not a few instances they had advanced so far as to use these terms in a figurative sense, and to transfer them from their original use in designating the operations of the material world, to distinguish analogous effects in morals, and in the nature of human actions. It is remarkable, that the first instance which the research of Dr Marx supplies, is exactly of this description. Plautus, in his Amphitruo, makes the master apply the term *pestis* figuratively to his slave; and as it was an invariable practice in the slave to indulge in that species of witticism, to which modern critics apply the name of pun, the slave avails himself of the double meaning of the word, in order to make the retort punning to his master. Begone, says Amphitruo, " What is the matter," returns Sosia, " Thou hast the plague!" *Pestis te tenet!* says the master, " And why says thou so?" returns the facetious slave, " I am indeed well and sound, Amphitruo." *

The name of plague suggests the verses of Lucretius; and who has not read the Lucretian conception of the Athenian pestilence? If strong and vivid description, beautiful imagination, mellowed by a mild philosophic dignity and seriousness, all expressed in the simplest, yet clearest and strongest language, can constitute poetry, Lucretius the Epicurean is the first of poets. But he is not the poet of ordinary readers;—for his subjects, though the most important that can interest a rational being, are darkened by the obscurity of his philosophical notions; and, as he himself says, he rambles over pathless tracts, untrodden by mortal foot; he sips fountains untouched by mortal lips; and the garland, which invests his temples, consists of flowers plucked by no mortal hand. In his atomic reveries on the creation of matter, he contemplates the natural world with that nice selection of its most striking and interesting objects, which cannot fail to please every unsophisticated mind; yet through such a veil of gloom and solemnity, that the reader is at once charmed with the simple beauty of his imagery, and involuntarily led to serious thought, by the chain of deep reflection with which the whole is treated. The operations of the mind—the destruction of the body—the processes of sensation and intelligence—the formation, arrangement, and motion of the heavenly bodies—the formation of wandering savages into communities of men—the foundation of cities, kingdoms, and republics—the rise of civil and political institutions, and the introduction of religious rites—the growth of the arts of war and of peace, agriculture, music, navigation, and the invention of letters, come successively before the eye in this great spectacle of the world. Even when he denies the existence of the infernal regions, and the poetical fictions of future punishment, he throws a black and gloomy glare of light equally over the victims and the torturers, over Tityus and his insatiate vultures, Tantalus and his water, Sisyphus and his restless stone. It is in his tenth book, after detailing the natural history of thunder, lightning, whirlwinds, clouds, and storms of rain, snow, and hail, earthquakes, tides, the burning eruptions of Ætna, and the fertilizing inundations of the Nile, the heats of summer and the colds of winter, that he explains the formation of diseases, the origin of pestilential distempers, and concludes with the account of that deadly heat, which, issuing from the far deserts of Ethiopia, traversed air and sea to light on the people of Pandion, rendered the Cecropian plains deadly, ravaged the streets, and consumed the citizens.

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* Amphitruo II. I. v. 33.

" Hæc ratio quondam morborum, & mortifer æstus
Finibu' Cecropiis funestos reddidit agros,
Vastavítque vias, exhausit civibus urbem.
Nam penitus veniens Ægypti è finibus ortus,
Aëra permensus multum, campósque natanteis,
Incubuit tandem populo Pandionis: omnes
Indè catervatim morbo mortíque dabantur.'

Few things are so unfit for poetical description as the details of disease; for the subject, though interesting, is also extremely loathsome and disgusting, and there is always danger, lest, by exaggerating the real miseries of epidemic sickness, and overpainting its actual horrors, truth should be violated, nature outraged, and taste completely set at defiance. Yet it is a remarkable proof, not only of the genius of Lucretius, but of his judgment and taste, that this description, though bearing every appearance of accuracy, presents scarcely a thought or expression to which good criticism could object. It is obviously copied from Thucydides; but as the poet speaks in several parts with more clearness than the historian, it may be supposed that he had strengthened his conceptions of the state of a sickly city, and the characters of a pestilent epidemic, by the observation of some analogous one in Italy. Thus, before entering on the actual description of the Athenian plague, he proposes to explain the manner in which a morbid agent arises, and breathes destruction on the race of man and troops of cattle, informs us that the seeds of disease and death, which are constantly moving about, may disturb the atmosphere and render the air sickly; that this is the power and pestilent character *(pestilitas)* of diseases, when clouds and mists fill the air, or ascend from the earth, moistened with unseasonable rains, and becoming putrid by solar heat; and that this constitutes a new sickness or pestilent agent, which may descend on the waters, may light on the fruits, or food of men and beasts, or continue suspended in the air, with which it is inspired, and must therefore be absorbed by the human body. This theory, which may be said to be that which Lucretius gives of the origin of pestilential epidemics, is borrowed partly from Thucydides, partly from Diodorus the Sicilian, and applies chiefly to the development or commencement of the disease. Afterwards, when it was fully established, he unhesitatingly enough ascribes to it contagious properties and dissemination by contiguity,

"Idque vel in primis cumulabat funere funus;
Quippe etenim nullo cessabant tempore apisci
Ex aliis alios avidi contagia morbi;"

and, when remarking how vain was the precaution of those who through fear of being infected,

"Vitai nimium cupidi mortisque timentes;"

he shortly after says, it was no better with those who continued.

"Qui fuerant autem præsto contagibus ibant,"

these passages must satisfy every unbiassed mind, that Lucretius not only admitted the propagation of pestilential disorders by contact; but either taught it as part of the Epicurean philosophy, or supposed himself appealing to a principle of belief already familiar among the Romans. Ovid, in like manner, uses very much the same language in painting the plague which attacked the island of Ægina.

"Corpora fœda jacent, vitiantur oderibus auræ
Adflatuque nocent, *et agunt contagia late.*
Quo propior quisque est, servitque fidelius ægro,
In partem leti citius venit." Metam. vii. 578.

Of the writings of Virgil, various parts testify the belief of contagion to be common, especially with regard to the prevalence of epizootic maladies. Our author adduces the following instances, which we doubt not must be familiar to every reader of this elegant poet. The admonition of Tityrus to Melibœus in the first eclogue,

"Nec mala vicini pecoris contagia lædent."

In the third book of the Georgics, when the author gives rules for detecting and curing sickness in sheep;

"Continuo ferro culpam compesce, priusquam
Dira per incautum serpant *contagia* vulgus;"

and, shortly after, when describing a deadly epizootic, which ravaged the flocks, herds, and tame animals in general of the lower Alps, as far as the shores of the Adriatic; he says,

"Et genus omne neci pecudum dedit, omne ferarum,
Corrupitque lacus, *infecit* pabula *tabo.*" 480, 481.

And, at the close of his description, he alludes plainly enough to the infectious nature of the disease in the following verses.

"Nec tendere quidem morbo illuvieque peresa
Vellera, nec telas possunt attingere putres.
Verum etiam invisos *si quis tentarat amictus,*
Ardentes papulæ, atque immundus olentia sum
Membra sequebatur; nec, longo deinde morante
Tempore, *contactos artus* sacer ignis edebat."

It is in the history of Livy, however, that we find the clearest and most indubitable proofs of the belief of contagion among the Roman writers. This author has distinguished not fewer than twenty-three periods of the Roman history, in which 'laboratum pestilentia,'—pestilential sickness prevailed in the city or territory of Rome, in one or two instances in the army, as at Syracuse, and in Liguria during the second Punic war; and in those most conspicuous for fatality or universality of prevalence, he has in general mentioned the circumstances by which it was believed to spread contagiously. Three of these are described in terms so perspicuous, that Dr Marx justly adduces them as strong evidence of the subject of his inquiry. The first, which is that already noticed as recorded by Dionysius of Halicarnassus during the consulship of Lucius Æbutius and Publius Servilius,* 291 years after the foundation of the city, and 462 years before the commencement of the Christian era, is described in the third book, sixth chapter, in the following terms.

"Grave tempus et forte annus pestilens erat urbi agrisque, nec hominibus magis, quam pecori; et auxere vim morbi, terrore populationis pecoribus agrestibusque in urbem acceptis. Ea conluvio mixtorum omnis generis animantium et odore insolito urbanos, et agrestem, confertum in arcta tecta, æstu ac vigiliis angebat, *ministeriaque in vicem ac contagia ipsa vulgabant morbos.*"

The second occurred in the consulship of Aulus Cornelius Cossus, and Titus Quintius Pennus, A. U. C. 327, before the birth of Christ, 426 years, commenced as an epizootic, and affected afterwards the people.

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* See page 116.

" Defectus alibi aquarum circa torridos fontes rivosque stragem siti pecorum morientium dedit; scabia alia absumta: vulgatique contactu in homines morbi, ei primo in agrestes ingruerant servitiaque; urbs deinde impletur. Nec corpora modo adfecto tabo, sed animos uqoque multiplex religio invasit." [*]

The third is the noted epidemic that took place at Syracuse, while this city was besieged by the Roman forces under Marcellus, and which affected equally Syracusans, Romans, and Carthaginians. The passage most worthy of attention is the following.

" Et primo temporis ac loci vitio et aegri erant, et moriebantur: postea curatio ipsa et contactus aegrorum vulgabat morbos; ut aut neglecti desertique, qui incidissent, morerentur, aut adsidentes curantesque eadem vi morbi repletos secum traherent: quotidianaque funera et mors ob oculos esset, et undique dies noctesque ploratus audirentur." [†]

And shortly after;—' mortuique ægros, ægri validos, cum ' metu, tum tabe ac pestifero odore corporum conficerent. '

Dr Marx quotes two other passages from the thirty-seventh and forty-first books; but we do not regard them as equally satisfactory with those which we have now submitted to inspection, and which we consider as quite sufficient to establish the conclusion. There is also a passage in the fifth book, in which the author, speaking of a pestilent disorder which affected the invading army of the Gauls, uses the expression, " quum æstu et angore vexati, *vulgatis* velut in pecua morbis, morerentur." [‡]

Columella in his writings on agriculture, takes occasion to introduce the subject of veterinary medicine, and the therapeutics of domestic animals. He frequently speaks of the necessity of separating tainted or sickly sheep from the sound, to prevent them from infecting the flock.

Vegetius Renatus, who in his Treatise on the Military Art, has written with much judgment on the diseases of men and animals, speaks very distinctly of the contagious character of certain disorders incident to animals, and of the precautions requisite to prevent them from spreading. The following passage will be read with considerable interest.

' Nam pascendo herbas inficiunt, bibendo fontes, stabulo præsepia: et quamvis sani boves, odore morbidorum afflante depereunt. Usque eo etiam mortua cadavera ultra fines villæ projicienda sunt, et altissime obruenda sunt sub terris, *ne forte ipsorum corporum interna sanorum contingantur et pereant.* Uno quidem vocabulo pestilentia appellatur, sed habet plurimas species, quas enumerare non licet: facilius ipsa principia a diligentibus intelligi possint. Est itaque humidus quoties per os et nares humor effluit bobus, et fastidium ægritudoque consequitur. Et siccus, quoties nullus humor apparet; sed animal quotidie macescit et fit deterius, nec juxta consuetudinem appetit cibos. Est articularis, quoties interdum de prioribus, interdum de posterioribus pedibus claudicant boves, cum habeant ungulas sanas. Est et subrenalis, quoties a posterioribus debilitas appareat, et quia lumbi dolere creduntur. Est farciminosus, quoties per totum corpus bobus tubercula exeunt, aperiunt se, et quasi sanantur, et iterum in aliis locis exeunt. Est et subtercutaneus, quoties humor pessimus in diversis partibus corporis bobus erumpit et decurrit. Est elephantiasis, quoties velut scabies minutæ cicatrices exeunt extra corium, et ad similitudinem lenticulæ. Est mania, quæ refectis bobus eripit sensum, ut nec audiant more solito, nec videant: ex qua passione celerrime moriuntur, quamvis hilares pinguesque videantur. Hi omnes morbi contagione sunt pleni, et si unum animal apprehenderint, celeriter ad omnia transeunt, et sic interdum aut integris armentis, aut omnibus domitis afferunt interitus. Unde omni studio, quæ semel tentata fuerunt, segreganda sunt animalia, et ad ea loca mittenda, ubi nullum animal pascatur, ne contagione sua omnibus periculum generet negligentia domini (sicut solet a stultis) divinæ imputetur offensæ."

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[*] Historiarum ab urbe condita, lib. iv. 30.

[†] Ibidem, lib. xxv. 26.

[‡] Ibidem, lib. v. 48.

This is one of many passages for which we have no room. Seneca and Juvenal use the terms *infectus*, *contactus*, *contagium* in the figurative sense.

Quintus Curtius Rufus, the historian of the reign of Alexander the Great, speaking of the appearance of a disease, to which he gives the name of scab (scabies) says, "contagium morbi etiam in alios vulgatum," and represents it as spreading among the soldiers like a violent pestilence, and preventing them from touching or relieving each other in consequence of its infectious properties. Pliny the Elder, speaking of the chin-whelk, (*mentagra*) says it prevailed not among their ancestors or fathers, and that it crept into Italy under Tiberius Claudius Nero, in consequence of one Perusinus, a Roman knight, importing its contagion from Asia; he mentions carbuncle to have appeared during the censorship of Lucius Paulus, and Quintus Marcius, and that elephantiasis was unknown before the days of Pompey; he ascribes a contagious power to menstrual blood; and states, that the Delphic laurel is an antidote to the contagion of plague. Ammianus Marcellinus ascribes contagious powers to many diseases with which the higher ranks of Roman society were affected.

But of all the Roman authors Cælius Aurelianus, the skilful physician of the methodic sect, is the writer who treats the subject of contagion and contagious distempers at greatest length and most clearly. The principal passages which warrant this conclusion are given by Dr Marx; but we have not room for repetition. It is sufficient to say, that this writer ascribes contagious powers to elephantiasis, to night-mare, to hydrophobia, to gout, and to pestilence. That the emperor Justinian, the immortal founder of the code of Civil law, believed in contagion as a cause of the propagation of disease, appears from a rescript admitted into the code, to make provision for the detention of witnesses believed to labour under any contagious disorder. Isidore of Seville, who flourished in the 636th year of the Christian era, is the last Roman authority mentioned by our author. From two long extracts, we select two short definitions of pestilence given by this author, as quite sufficient to answer the purpose, " Pestilentia," says he in one place, " est contagium, quod, dum unum apprehenderit, celeriter ad plures transit;" and in another, " Pestilentia est morbus late vagans, et contagio suo quaeque tetigerit, polluens."

Among the Arabian writers, to whom Dr Marx now proceeds, Abou-Bekr-Al-Rasin considers leprosy, itch, consumption, and pestilential fever as maladies, " quæ de uno transeunt ad alium;" ophthalmia also (ægritudo oculorum) by merely looking at the patient; and certain bad pustules when numerous, " de uno quandoque ad alium transeunt."

Ebn-Sina's catalogue of maladies, " quæ de uno ad alium transeunt" is, if possible, more numerous; " sicut lepra, et scabies, et variola, et febris pestilentialis et apostemata putrida, et præcipue quum domus strictæ fuerint, et similiter, quum vicinus fuerit sub vento: et sicut ophthalmia, et præcipue ei qui oculis eum intuetur: et sicut phthisis, et vitiligo.' Achmed-Ebn Roschd (Averrhoes) makes no mention of contagion; but Abou-Merouan-Ebn-Zohr (Avenzoar) the last in this list, evidently alludes to this property of disease, when he speaks of the " cancer pessimus scilicet lepra" arising on the persons of men, " propter vicinitatem et contractionem moræ cum ipsis leprosis."

Such is the body of evidence which Dr Marx has collected from the Greek and Roman authors, and the Arabian medical writers, to show the opinions entertained by the ancients on the subject of contagion. We are indebted to the researches of Annibal Omodei, editor of the Milan Annals of Medicine, for various notices of the state of public and professional opinion on this subject during the middle ages, and for a century and a half after the revival of literature. And in order to render our observations on this subject continuous at least, if not complete, we shall briefly take a view of the principal circumstances which the history of the middle ages supplies on this head.

We learn from Muratori, the learned annalist and antiquarian of the Italian history of the middle ages, that pestilential epidemics frequently appeared in Italy, and caused great and unusual destruction of human life. Thus a famine and pestilence appeared in 1340, which was supposed to be imported from Egypt, Syria, or the Greek empire, by the frequent commercial intercourse carried on between these countries, and the Venetians and Genoese. At this time there were no lazarettoes, nor expurgations, nor did they use those diligent cautions which the prudence of later ages has adopted to prevent the introduction of infection. The next season of pestilence is that of 1348, rendered immortal by the amusing pen of Boccacio, in his Decameron, or Ten Days Stories. It is described by the annalists of that time, as having been brought from the Levant by Genoese gallies during the previous year (1347), when it caused much mortality in Florence and the other lands of Tuscany, and more in Bologna and Romagna, in Provence, and other places. It appears to have subsided in November; but as precautions were not used to keep it under, it became more violent in the beginning of 1348, ravaging almost every city and district of Italy, except Milan and Piedmont. After causing incredible havoc, it passed into France, Germany, England, and other countries. "It was then," says Muratori, "that the survivors began to use some measures for protecting themselves from the advances of this destructive malady; and these measures have proved so much more judicious, that if pestilence has been introduced into any one country of Italy, it has not proceeded to any other." It is evident from this passage, that the plague was believed to be contagious, and to require measures of police to prevent its introduction so early as 1348. But even this indirect proof is not requisite; for Boccacio, who was an eyewitness, informs us, that "not only intercourse with the sick gave the sound the distemper or cause of common death, but even touching their clothes, or any other article which had been handled by the sick, appeared to communicate this distemper to the person of the individual who touched them."* Sagacio and Peter Gazata, in the Chronicle of Reggio, from 1272 to 1388, Fra Bartholomeo della Pugliola, in the Chronicle of Bologna, from 1104 to 1394, and Martin Sanuti, in the Lives of the Dukes of Venice, all equally record, that the plague of 1348 was propagated by contact, and by articles worn or handled by the sick (*fomites*); which Sanuti is at pains to say was not the case with the subseqent plagues of 1361 and 1362.† It is known also, that the

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* Giovanni Villani, l. 12, c. 83. Decamerone Giornata prima, p. 11.

† Muratori Rerum Italicar. Script. Tom. 18. p. 66 and 409. Tom. 22. p. 615, &c.

Governor of Venice put in force sundry police regulations against the plague of 1348; that by prudent cautions the Pretor Edward Pollani preserved from the plague of 1371 the city of Trevigi and the army of the King of Hungary,—which was combined with the Florentines and Pisans in favour of Francis of Carrara;[*] and that wise measures were employed by the Imperial Vicar-General of Milan to preserve Lombardy from the plague, which in 1374 broke out in the Modenese, the Parmesan, and the Bolognian territory, upon the hills of Reggio, in the Lunigian and other provinces.[†] These facts, says Omodei, abundantly show, that in the fourteenth century the Italian states understood the indispensable necessity of interdicting commerce with places affected with plague, to protect healthy countries from the disease.

It does not however follow, that the method of purifying garments worn by the sickly was known in these times. Sabellicus relates, that the health-office for the plague was instituted in Venice in 1485, during which year the epidemic of 1477 had not subsided; and he adds, that the three officers appointed to this duty,—to remove all cause of contagion,—had ordered a great quantity of clothes, fraudulently collected by grave-diggers, to be burnt in public.[‡] But he mentions not, whether other cautions were adopted to prevent infected garments from being condemned to the flames,—a subject on which Dalla Corte is also silent, both when enumerating the provisions taken by the city of Verona to rid itself of the plague of 1491, and when treating of the measures pursued by the same city to extinguish that of 1511.[§]

There is reason therefore to believe that, in these times, various modes of purification were adopted in Italy. Marsilius Ficinus speaks of them fully in his *Consilium contra pestem*, promulgated in 1481.[||] If it were not well understood that this distinguished scholar wrote, that he had composed this Counsel upon the authority of all the doctors, ancient and modern, and after the experience of many, especially that of his own father, an eminent physician, who cured the greater part of the diseased;[¶] before Marsilius, we meet with no physician who had publicly professed the doctrine of contagion and expurgation, as it is delivered in this book.

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[*] Ibid. Tom. 22. 615. and 18.498.

[†] Ghirardacci. Historia di varj successi d'Italia, e particolarmente della città di Bologna dal 1321 al 1425. Bologna, 1669. Parte seconda, lib. 23, pag. 304.

[‡] Istor. Venetiane. Trad. Ital. Venez., 1747. Deca quarta, lib. 3°, pag. 465.

[§] Dell'istoria di Verona. Verona, 1596, lib. 16, pag. 441 e lib. 17, pag. 525.

[||] Marsilio Ficino Fiorentino. Consiglio contra alla peste. Insieme con Tommaso del Garbo, Mengo da Faenza, ed altri autori e ricette sopra la medesima materia ec. In Fiorenza, 1576.

[¶] Op. cit. Pref. pag. 1.

That the word *contagion* was then synonymous with that of *disease communicable by contagion*, Omodei justly infers from the writings of Bernhard Gordon[*] and Arnold da Villanova,[†] who, at the termination of the thirteenth century, comprehend under the name of pestilent fever every sort of epidemic, deadly disease, derived principally from derangement of the air; and the latter of whom therefore recommends a speedy flight from the infested spot. In these days, also, there were non-contagionists. Thus, William Varignana, professor of medicine at Bologna in 1302, not only does not ascribe contagious properties to the pestilential carbuncle and bubo, but not even to small-pox and measles;[‡] and the celebrated Gentilis, who died of pestilence at Foligno in 1348, though he marked the neglect in which patients during plague are left, through fear of contagion, yet declared solemnly, that such contagion was received only by inspiring pestilent air.[§] Valesco de Taranta, who, according to some, flourished in 1382, according to others, about 1417, admits, besides the usual infection by means of the air, that it is possible to take plague also by touching the sick.[‖] But whether this mode of communication was contrary to the received opinions, or its author neglected to illustrate his doctrine, history shows that, in this century, it made no impression, and that physicians continued to understand it in the sense of being exposed to a common evil, by living amidst corrupted air,—or did not define it precisely. Lastly, contagion is unnoticed by Bruno,[**] father Theodoric the bishop of Cervia,[††] Rolando,[‡‡] Lanfranc,[§§] William de Saliceti[‖‖] and Roger,[¶¶] —all of whom speak more or less fully of carbuncles and buboes incident to pestilential seasons.

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[*] Opus Lilium medicinæ inscriptum etc. Ludgun. 1491, Particula 1, cap. 10, pag. 41.

[†] Breviarium practicæ medicinæ a capite usque ad plantas pedis etc. Mediol, 1483. Lib. 4, cap. 32, pag. 237.

[‡] Secreta sublimia ad varios curandos morbos verissimis auctoritatibus illustrata etc. Ludguni, 1539. Tract. 2. Serm. 2, cap. 1, pag. 57 et Tract. 4. Serm. 3, cap. 3, pag. 62.

[§] Introductor. Pratici de febribus. Collect. varior. Venet, 1575, pag. 555.

[‖] Philonium pharmaceuticum et chirurgicum, de medendis omnibus tum internis, tum externis humani corporis effectibus etc. Francof. et Lipsiæ, 1680, lib. 7, cap. 16, pag. 788.—At page 790, he adds: Vitetur consortium et tactus infectorum: sin minus avertatur facies, et olfactetur acetum.

[**] Chirurgia magna. Venet. 1546. Lib. 2, cap. 14, pag. 133.

[††] Chirurgia, lib. 3, cap. 12, pag. 163.

[‡‡] Chirurgia, lib. 1, cap. 36, pag. 190.

[§§] Ars completa totius chirurg. Doctr. 2. Tract. 3, pag. 229.

[‖‖] Chirurgia, lib. 1, cap. 59, pag. 322.

[¶¶] Chirurgia, lib. 2, cap. 6, pag. 369.

More complete notions on the contagion of plague appear to have been entertained by Raymond da Vinario, who was successively chief physician to three pontiffs at Avignon, and an eye-witness of the epidemic which attacked that city in 1348, 1361, and 1375. In a manuscript on plague, left by this author, and published with the seal of Dalechamp in 1555, we read, that it is dangerous to have intercourse with the sick, * and to approach those who come from infected places; that a single individual may infect a whole family, or an entire city; that persons employed in cleaning take the disease by contact only; that nuns escape the prevailing epidemic, because they live secluded and retired from all external communication; that all pestilent diseases are contagious; and that physicians ought not to attempt to cure them, *nisi maximis praemiis adducti.* Notwithstanding this, however, Omodei doubts whether Raymond † had precise notions of contagion. Thus, he makes plague arise from corruption of the air, induced by malignant influence of the stars, or from bad exhalations from the earth; and, to counteract these effects, directs the air to be purified by perfumes of herbs, &c.; yet he makes the danger of approaching the sick and the suspected, proceed from their capability of infecting the air which you breathe; and he represents clothes trimmed with fur as injurious during the prevalence of plague, because the loose nature of the fur facilitates the reception of the pestilent air. It is therefore incidentally only that he observes that articles touched by the sick may imbibe and retain a poisonous principle, capable of exciting in another the disease from which this principle was produced; and if he proscribes the use of furs during plague, he does so merely in relation to the individual who wished to wear them, without in the smallest degree remarking the importance of purifying clothes worn by the sick, or the use of the other measures of caution which have been since employed to destroy contagion lurking in *fomites*. Guido de Cauliaco, indeed, who was chaplain, chamberlain, and chief physician to Urban V. at Avignon, and spectator of the pestilent epidemics by which that city was attacked in 1348 and 1360, mentions, that both were caught by actual intercourse with the sick, but says not that they were taken by contact or *fomes;* and, in the astrological spirit of the times, he ascribes these plagues to change of air, caused by conjunction of certain planets at that time.* Bertapaglia, shortly after Guido, speaks of buboes and carbuncles, of prognosticating death in pestilential cases, and of preservative means; but makes no mention of contagion.†

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* De peste. Libri tres. Opera Jacobi Dalechampii, doctoris medici Cadomensis in lucem æditi. Ludguni, 1533.

† Op. cit. lib. 1, cap. 1, pag. 20.—Cap. 2, pag. 25, 27, 32.—Cap. 4, pag. 40, 41. —Lib. 3, pag. 149, 188.

The glory of founding the doctrine of contagion, as taught in modern times, appears more justly to belong to Jácopo da Forli, professor at Padua, who died, according to Facciolati, in 1413. He considers as contagious the pestilent fever derived from touching the sick, and clothes, and furniture used by them; recommends that the magistrates should cause them to be conveyed from the dwellings of the sick, and committed to the charge of any old woman not very apt to receive infection; and adds, that this precaution ought to be adopted at the first, because as the disease spreads, it becomes useless.‡ But Jacopo was not aware of the necessity and the means of purifying infected clothing; nor has he dared to emancipate himself from the prevailing opinions on the occasional causes of disease; and this perhaps was the reason that these correct ideas on pestilent fever did not procure the general assent of physicians, whom it could not escape, that they were as little conformable to the fashionable pathology of disease as to that professed by this author.

Giammatteo de Gradi, a celebrated Milanese physician, who died according to Corte, § in 1460, speaks of a contagious pleurisy, which passed successively from one person to another in the same family;|| and he had perhaps some notion of true contagion, as he speaks of the propagation of cutaneous diseases in a manner different from that taught by the Arabians. But he speaks not expressly of plague and fevers; and Antonio de Gradi, who flourished in 1468, in a treatise on fevers, published apparently to supply the chasm left by Giammatteo,—glancing at the contagion of the plague only by the way, says nothing of its propagation by contact or *fomes;* or of the precautions to be adopted to protect persons and countries from its attacks.¶ Francesco di Piemonte, who flourished at the beginning of the fifteenth century in his supplements to Mesues, mentions conta-

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* Chirurgia magna. Cum notis Laurent. Joubertii, etc. Ludguni, 1505. Tract 1. Doctr. 2, cap. 5, pag. 104.

† Chirurgia. Venet. 1546. Da aposthematibus, cap. 10, pag. 265.

‡ Jacopi Foroliviensis medici singularis expositio et quæstiones in primum Canonem Avicennæ etc. Venet. 1547. In 1 Cann. Fen. 2. Doctr. 1, cap. 8, pag. 88.

§ Notizie storiche intorno ai medici scrittori milanesi ect. pag. 25.

|| Practica seu Commentar. in Nonum Rhasis ad Almansorem, etc. Venet. 1560, cap. 53, p. 168.

¶ Tractatus insignis de Febribus, signa, causas et curationes Febrium complectens. Cap. 25, pag. 416.—Extat. cum. Op. cit. Joh. Math. Gradii.

gion in the sense of Galen, or infection by common distemperature of the air; [*] and the same is done by Antonio Guainerio, who lectured on medicine in the university of Pavia about the year 1440. [†] Antonio indeed states, that the plague is called contagious because it is taken by contact; but, as he ascribes it to corruption of air, and in his preservative system recommends all the measures then believed to purify it, and give the animal body an artificial immunity from its influence, there is reason to believe that his ideas of contagion were not more correct than those of his predecessors. Pietro Largelata *alias* Argelata, or de la Cerlata, who died, according to Mazzucchelli, in the month of January 1423 at Bologna, where he taught surgery with great applause, speaks of pestilential bubo and carbuncle, but not of contagion; [‡] nor is it mentioned by Giovanni Plateario, though he treats of all manner of fever. [§] And if Mengo Faventino, called also Mengo Bianchelli, who shortly after this epoch attained great honour, recommends the use of his bezoardic medicine, to protect those who are obliged to communicate with plague-patients, and represents small-pox to spread sometimes by contagion; [‖] yet as, in regard to the origin of plague, he adheres strictly to the doctrine of astrological influence,—it follows, that he understood by infection the simultaneous attack of several individuals by the same disease, in consequence of supposed distemperature of the air by celestial influence, or emanations from the sick. This is further manifest in his omission to speak of the communication of plague by contact and *fomes*, and of means of preservation in the sense in which that term was subsequently used.

Giovanni da Concorrezzo, who was public reader at Bologna, afterwards at Pavia, where he died in 1483, pronounces pestilent fever contagious, and ascribes to this property its transit from province to province, from city to city, from one individual to another, and the infection of a whole family from the sickness of one person; but he was so much persuaded that the disease depended on the poisonous quality of the air, that he avowed, we had neither art nor ingenuity to avoid it. [¶] Bartolomeo Martignana, who, in his Medical Counsels, published in 1444, calls pestilent fever contagious, * speaking of the means of preservation, recommends those only which were then believed capable of making the system resist pestilence;—the propriety of which is entirely admitted by Antonio Cermisone of Bologna, who, in treating of the preservatives from plague, confines them to the ancient bezoardics, and purification of the air by odorous and aromatic substances. †

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[*] Supplementum in secundum Librum Compendii secretorum medicinæ Joannis Mesue etc. Particul. 1, sect. 2. cap. 61.

[†] Practica. Papiae, 1497. Different i, cap. 1, pag. 97.

[‡] Chirurgia. Libri sex. Venet. 1520, lib. i. Tract. 1, cap. 22, pag. 7.

[§] Practica brevis. Venet. 1530. De Febrib. cap. 7 et 8, pag. 170.—Extat cum Practica Joann. Serapion.

[‖] De omn. genere Febrium. Venet. 1536. Par. i. Tract. 3, pag. 36 et Tract. 5, pag. 37. 38.

[¶] Practica nova medicinæ, Lucidarium et Flos Florum medicinæ nuncupata. Cum Summula de curis Febrium secundum hodiernum modum et usum compilata. Venet. 1501.—Summul. etc. Cap. de Febr. pestil.

It is singular, however, that the famous Michael Savanarola, who about this time had already acquired great renown by teaching medicine in the university of Ferrara, and had been a pupil of Jacopo da Forli, did not dwell more upon this subject. Notwithstanding that he was aware of the propagation of plague, by means of sound persons, and especially through the medium of physicians, as well as of the immunity of friars, monks, and prisoners, who live secluded from foreign communication,—yet impressed with the current opinion that the disease attacked in consequence of corruption of the air, by influence of stars or by terrestrial emanations, he searches for the causes of these personal exceptions at one time in the peculiar disposition of individuals, at another in the quality of the air breathed by persons living apart from society, within lofty walls; and even to protect the healthy, instead of fleeing from the infected spot to avoid imbibing the *corrupted air*, nothing else is recommended by Savanarola than the cautions of *comforting* the body with bezoardics, and the right use of the six nonnaturals, and purifying the air by different sorts of perfumes. ‡ Giovanni Arculano professor at Padua, afterward at Bologna, towards the end of the fifteenth century, (he died at Ferrara in 1484,) follows Ebn-sina both in viewing plague as a disposition of the air, by means of which disorders of the same sort are multiplied, and in the means of preservation; § and Rolando Capelluto, who was a personal witness of the shocking glandular plague of Parma in 1468, scarcely incidentally enumerates contagion among the causes of the distemper, which he ascribes to influence of stars, to putrefaction of carcases, and principally to scarcity. ||

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* Consiliorum Aggregat. de ægritudinibus tam communibus quam particularibus a capite usque ad pedes. Et de conservanda sanitate. Venet. 1514.—Consil. 287, pag. 313.

† Consil. contra omnes fere ægritudines a capite usque ad pedes. Venet. 1514.—De Febrib. pag. 403,—Extat. cum. op. Barth. Martignanæ.

‡ Practica canonica de Febribus etc. Venet. 1552. Cap. 9, pag. 31, 32, 33 et seq.

§ De Febribus in Avicenn. Quarti Canonis Fen. primam dilucida atque optima expositio etc. Venet. 1560. Tract. 4, cap. 1, pag. 166, cap. 4, pag. 170, cap. 5, pag. 172.

|| De curatione pestis Tractatus. Editio nova emendatior curae H. Coringii Brunsvigae, 1619, pag. 6.

Baverio de Baveriis, of whom Philip Beroaldus says, *tanquam Æsculapius colebatur consulebaturque in medicinæ disciplina; cujus decreta oraculis veriora existimabantur;*—directed as preservatives the use of internal remedies, and various perfumes, nor has he in the slightest manner mentioned contagion in the sense in which it had already been understood by some.[*] Whether Nicolò Nicoli, the Florentine, or any other eminent physician in this age, had any opinion on this subject, our author does not say, as he had not been able to see their writings.

Omodei proceeds to show that the first writer *among physicians,* who traced the rules of pestilent contagion, and devised the means most fit to preserve from its attack, was the well known Alexander Benedict, according to some a native of Verona, according to others of Legnano, and who successively taught medicine at Padua and Bologna. In his Treatise on the pestilence, published in 1493, he not only maintains that the disease may be received by touching patients, but affirms that the morbid principle is imbibed and retained in articles used by the sick, so that besides the necessity of interrupting all communication with the tainted persons, he inculcates, for the purpose of extinguishing plague, the diligent purification of articles of clothing which they have touched,—an admonition not given by any previous physician.[†] It is remarkable, that in noticing the contagious diseases which appeared in the fifteenth century, Freind has passed Alexander Benedict[‡] in silence, and still more so that Sprengel[||] and Jourdan,[§] when enumerating the literary merits of this great man, take no notice of his being the first to explain the mode in which a disease, the most dreadful of all, is propagated, and the means to be used against its invasion; and this omission is the less excusable, says Omodei, that different writers of great renown in the fifteenth century, following the ancient ideas, continued to speak of contagion by inspiration of infected air only; examples of which are found in the surgical writings of Giovanni da Vigo, (1513),[¶] and in the treatise on the treatment of fevers of Blasius Astarius who taught medicine in the University of Pavia, about the beginning of the same century.* We find also, that though the doctrine of contagion of plague by touching patients, and by impregnated articles, *(fomites)* was adopted by physicians in the sixteenth century, yet few or none appreciated the practice of purifying tainted persons and clothing, which necessarily forms an integral part the same doctrine. Clemens Clementinus, for instance, of Rome, remarks, about 1505, the possibility of healthy persons bearing contagion and conveying it into remote countries, but not with equal clearness, propagation by inorganic *fomites*, or the importance of disinfecting tainted articles; † nor are such practices adverted to by Philip Beroaldus of Bologna, to whom there is reason to believe, true contagion by touching the sick was known in 1505. ‡ Pietro Bayro, who in 1507 pronounced plague and pestilent fever contagious by contact of the sick, and by *fomites*, and chiefly by means of clothes, of linen, (pannilini) coming from infected places, takes no pains to indicate the necessity and the means of destroying contagion lurking in them; § and Giovanni Salio, who in 1510 caused the wary who wished to escape the plague to emigrate to a healthy country, and take neither clothes nor other necessaries from which they might be infected, has nevertheless unfolded no method of purifying such articles. ‖ Simforian Camperio, who flourished at the beginning of the sixteenth century, was aware of the communication of plague by intercourse with the sick, and of its retention in *fomites* of woollen garments; and he inculcated the measure of fleeing from the infected place, and of subdividing families to prevent infection from the diseased; but he says nothing of expurgation, or of the means of arresting the progress of contagion; ¶ nor are these subjects mentioned by Pietro da Taussignano, a most illustrious physician at this period, of whom it can scarcely be said that he suspected the contagion of plague, in admonishing physicians not to soil the fingers with the purulent matter issuing from open carbuncles.** Few traces of opinions on contagion are left by Manardo in 1435,†† and Mundella in 1541;[†] and to find any physician who professed the doctrine of contagion by touching patients, and by fomites, with the practice of purifying infected articles, we must proceed in this century to Nicolaus Massa in 1540,[‡] and to Hieronymus Fracastorius, who in 1546 published the well known treatise on contagious dieases, which our author considers as the best extant on the subject. Hieronymus Cardan in his treatise on Poisons, published in 1563, has touched it but slightly. He speaks of the property which contagion possesses of being transferred by *fomes;* but in treating of preservation, next to not communicating, travelling or hunting with any one, he recommends nothing but the right use of the non-naturals, of alexipharmics and alexiterics; and says nothing of the means tending to prevent intercourse with the infected, or which are known to destroy the latent contagion of impregnated articles.[§] Lastly, Victor Trincavelli,[‖] who died at Padua in 1568, not only does not mention any perservative measure, but is satisfied with pronouncing it dangerous to communicate with plague-patients, as it is unsafe to communicate with one attacked with lippitude or consumption.

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[*] Consil. medicinal., sive de morborum curationibus, impressa castigatissime Bononiae filiorum sumptibus, opera vero Platonis de Benedictis, die quarto novembris 1489. Consil. 36 et Consil. 74, capit. 3.

[†] Op. omn. Basil. 1519. Libell. de pestilentia, cap. 3, pag. 556, cap. 6, pag. 558, cap. 10, pag. 564.

[‡] Op. omn. Parisiis, 1735. Histor. med. pag. 317 e seq.

[§] Versuch einer pragmatische. Geschichte der Arzneykunde. 2. ter Theil. Siebent. Abschnitt § 81, pag. 634.

[||] Bibliographie medicale. tom. 2, pag. 141.

[¶] Practica chirurg. Ludguni, 1561. Lib. 2, cap. 20, pag. 90.

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* Liber de curandis Febribus.—Collect. varior. Venet. 1575, pag. 657.

† Clementi Clementini Amerini medicorum nulli, quos Roma atque adeo Italia habuit etc. Basil., 1535, pag. 87.

‡ De terraemotu et pestilentia cum annotamentis Galeni. Bonon., 1505, pag. 15.

§ Novum ac perutile Opusculum de pestilentia, et de curatione ejusdem per utrumque regimen preservativum ac curativum. Taurini, 1507.—De cura pestilentiæ.

‖ De praeservatione a pestilentia et ipsius cura. Opusculum non minus utile quam necessarium etc. Viennae Austr., 1510, cap. 1, 2, 3,

¶ Practica nova etc. Venet., 1522. Tractatus de generibus febrium etc. Cap. 10, § 1, pag. 49, 6.

** Consilium pro peste evitanda.—Extat cum Fascicul. medicinae Joann. de Ketam, Alemanum, Venet: 1513.

†† Epistolar. medicinal. Lib. VII. Ludguni, 1555. Lib. 7. Epist. 2, pag. 49.

Thus closes this long list of authorities adduced by Omodei with equal learning and judgment. This latter division of the subject embraces, it will be seen, a period of two centuries, from the middle of the fourteenth century at least, (1348,) to the middle of the 16th century (1547); and during this period, it appears, that however loose and inaccurate the notions of many professional persons were, yet that the contagious nature of plague was neither unknown nor disregarded. These researches of Omodei, indeed, show that the opinions of some, for example, Boccaccio, Marsilius Ficinus, Valesco de Taranta, and Raymond de Vinario, on the contagious communication of diseases reputed pestilential, or popularly termed *plague*, were remarkably precise and specific; and though it was reserved to Benedict to indicate the danger of touching infected articles, and to inculcate the necessity of a rigorous system of seclusion, and the diligent use of disinfecting means, yet there is not the smallest ground for asserting that the doctrine of contagion is a discovery of modern times. It appears, on the contrary, from the learned inquiries of our two authors, that the germs of this doctrine existed in very remote ages; and that the Greek and Roman writers were substantially acquainted with the fact, that certain diseases might be communicated from one person to another previously in perfect health, though they have not reduced their opinions to the precise form which the principles of modern systematists have communicated. It appears further, that this doctrine had lost somewhat of its hold on the human mind after the tenth century, during the confused period of ignorance and political revolution, which, through almost all the countries of Europe, preceded the subversion of the Eastern empire and the capture of Constantinople. It was not until mankind began once more to think and observe, after they had partially recovered from these commotions, that the doctrine of contagion again attracted attention; and the frequent occurrence of pestilent distempers, with the general prevalence of foul diseases ascribed to contagion, suffered not this attention to fall asleep. The practical application in the adoption of measures of prevention and disinfection and purification followed; and while physicians attempted to seek preservatives, the public magistrate pursued the only means capable of preventing the introduction, and arresting the progress of a disease, the rapidity and fatality of which at once baffles the skill and promptitude of the physician, and renders the fortitude and docility of the patient unavailing.

[†] Epistol. medicinal. Ludguni, 1555. Epist. 17, pag. 350.

[‡] De febri pestilentiali, ac de pestichiis, variolis, morbillis etc. Venet. 1555. Tract. 2, cap. I, pag. 23 etc.

[§] Op. omn. Ludg., 1663, tom. 7. De venennis. Libri tres. Lib. I, cap. 12, pag. 289; cap. 13, pag. 292; cap. 14, pag. 293, Lib. 3, cap. I, pag 326; cap. 2, pag. 327; cap. 19, pag. 344.

[‖] Op. omn. Ludguni, 1586, tom. I. In Galen, Libr. de differ. febr. cap. 2. pag. 9.

We see, therefore, how groundless is the assertion that the doctrine of contagion is a modern invention, and how inconsistent it is with the actual facts of the case. In short, the opinion that this doctrine originated with Pope Paul III, and was indebted for its existence to the efforts which this pontiff made to transfer the Great Council of the Church from Trent to the city of Bologna, is equalled in audacity only by the gross ignorance which it betrays of civil history, ancient and modern. Whatever political intrigues this Papal statesman meditated, and whatever means he might contrive to effect his purposes, it is manifest that the doctrine of contagion was understood before his time; and that whatever may be the merits of Fracastorius in inculcating the danger of a residence in Trent, he was not the original promulgator of this belief. We cannot conclude better than in the words of Omodei, that " the assertion of Dr Maclean of the word *Contagion* being invented by Pope Paul III, and of the work of Fracastorius being published by order of the Court of Rome to dispose the public mind to believe this story, in so far as concerns the present subject, is manifestly contradicted by the documents now cited from the pages of civil as well as medical history."

II.

Die Arzneimittel des Hippocrates, oder Versuch einer systematischen Aufzählung der in allen Hippocratischen Schriften vorkommenden Medikamente, von Dr J. H. Dierbach, Professor der Med. in Heidelberg, &c. Heidelberg, 1824.*

The Materia Medica of Hippocrates, or an Attempt towards a Systematic Enumeration of Medicines occurring in all the Hippocratic Writings, &c. &c.

Our almost total ignorance of the terminology of the ancients, renders the study of their works unprofitable and unsatisfactory. We still want a key to the works of a Theophrastus and a Dioscorides; hence it is with great uncertainty that we attempt to decipher the Materia Medica of the ancient physicians. The confusion we meet with is so great, that it renders many valuable practical observations entirely useless to us. In later times, however, the labours of learned men have afforded many useful results, and have smoothed the road to future researches, so that, as in deciphering an illegible manuscript, we may still hope with industry to make further progress. In this point of view, the author of the present work shows himself to much advantage, and his laborious undertaking must insure to him the thanks of every friend of medical antiquity.

The editor, in his antiquarian researches, besides availing himself of the well known modern works, has chiefly used the valuable Commentary of Matthiolus upon Dioscorides (Venice, 1560), which also contains excellent wood cuts. Notwithstanding these aids, however, he has felt so much the want of a connected view of the Materia Medica of Hippocrates, as to render the present work highly acceptable to him. In the arrangement of the various articles, Hufeland's Conspectus Materiæ Medicæ has been followed, and the author has given additional utility to his work, by introducing no chemical principles which might seem to detract from the merits of such venerable antiquity.

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* Hufeland Bibliothek der practischen Heilkunde. 8°. St. 1824.

The Introduction contains the opinions of Hippocrates and his followers, such as are generally known, respecting the effects of remedies. These were chiefly drawn from the philosophy of the elements, and the humoral pathology arising therefrom, notions which chiefly prevailed through the whole of antiquity. The author then enters more immediately upon his subject; and in the 1st chapter he treats of water. Here we shall not follow him in detail, but merely remark, that in this part, as well as in the whole work, the references are very numerous, though some slight inaccuracies occur in their quotation. The number of the pages of the edition of Fœsius, 1657, is by no means satisfactory. The edition of Van der Linden might have been used with more convenience.

The second chapter contains alimentary substances, milk, eggs, barley, to which belong also the ptisans, cyceon and maza. Upon all these subjects the author treats concisely, making a prudent use of the labours of former writers. Πυρος, Triticum, ζεια, Spelta, whose grain, *Alica*, was at all times much in vogue among the Romans. Βρομος, *Avena sativa*, or *orientalis*, was in little use among the Hippocratists. Ελυμος, *Panicum Italicum:* Κεγχρος, hitherto considered as the common millet, *Panicum miliaceum*: but the author is inclined to refer it to the *Holcus Sorghum*, a grain much cultivated in the islands of the Archipelago. Ἀσπάραγος, probably asparagus, *acutifolius* and *aphyllus*, also *officinalis*, the seeds of which, in wine, were used to promote menstruation. Κυαμος Αιγυπτιος, *Nelumbium speciosum.* This curious plant has still, among some of the eastern nations, a similar mystic mythological character, as formerly among the Egyptians. The Egyptian beans are a constipating flatulent food, which the followers of Hippocrates used in diarrhœa; it is these to which the well known prohibition of Pythagoras referred. Τριβολος *Trapa natans*, a well known article of food, and in modern times still used for diet; it is also used to promote menstruation; the root and leaves are likewise recommended to promote the expulsion of the Placenta. Δακτυλοι, (Dates) Φοινικες, Φοινικοβαλανοι, (Palm-nuts, Chestnuts of Dioscorides,) used in diarrhœas. Ανδραφαξις, * *Atriplex hortensis*, the seeds and juice were used in various puerperal diseases. Τευτλιον, † *Beta vulgaris* and *Cicla*, in consumption the juice was used with honey. Βλιτον, probably *Amaranthus Blitum*, still used here and there by poor people as food,

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* Ατραφαξις and Ατράφαξυς, Dioscorides and Aristophanes, appear to be more correct. EDITORS.

† Τευτλον, Dioscorides and Homer. EDITORS.

—as a medicine perfectly insignificant. Δρυς:[*] three species of oak grow in Greece, whose fruits are edible; *Quercus Esculu-* *Q. Ilex, var. smilax*, and *Q. Ballota*; and in the writings of Hipspocrates three kinds of acorns are noted as food, Βαλανοι, Ακυλοι, Φηγοι; when raw or roasted they constipate, but less so when boiled. The first kind has a general signification, therefore, no particular kind can be pointed out, perhaps the edible chestnut is occasionally meant; the second species indicates the fruit of *Q. Ilex.* Πρινος,[†] the third *Q. Esculus*, which is also commonly meant by δρυς. The medical use of them was limited. The root of the Steineiche, *Q. robur*, with wine and oil lees, boiled to the consistence of an ointment, was used for the cure of ulcers. Καρυα, *Juglans regia*, probably likewise Καρυα ποντικα *Corylus, avellana*, and *Colurna.* Μορεα, probably only *morus nigra.* Κνιδη,[‡] Ακαληφη, appears to be *urtica pilulifera*, frequently used by the ancients in diet, as in some places is at present *urtica dioica.* The seeds were used, particularly in Phthisis, in which it has been also recommended by some of the moderns. Συκας,[§] Κραδη, the use of the ripe fig was the same as in modern medicine; of the unripe figs, ολυνθοι, *Grossi*, ερινοι, *ficus sylvestres*, the wild fig-trees, which contain a harsh acid juice, they made use, to restrain hœmorrhage and heal ulcers. Σικυος,[¶] *Melone*, Πεπων,[||] Gurke, κολοκυνθη, *Wassermelone*, σικυος *cucumis melo, sativus* and *citruillus* much used as dietetic remedies. Under these names are contained a great many species and varieties of *cucumis*, certainly the *C. pepo* (der Kürbis) gourd is frequently meant, though no notice is taken of it by the author. Among such a number of cultivated plants which increase their varieties so much, it is quite impossible ever to attain perfect accuracy. Κραμβη,[**] *Brassica oleracea. B. oleracea*, the same remark holds good here. The cabbage it is well known was in such high repute among the ancients, that respectable physicians wrote distinct treatises upon it, and it occurs as a dietetic remedy in a long list of diseases. Γογγυλις, according to the author, is not *Brassica rapa*, for which it has hitherto passed, but *B. oleracea* var. *Napo-brassica.* Ραφανις, *Raphanus sativus*, in many varieties, particularly recommended in phthisis. Θερμος,* *Lupinus albus*, probably also *pilosus* and *angustifolius*, both which grow wild in the Greek islands, and are called by the modern Greeks λυπινι; in later times they have been used only as fodder for cattle, but among the ancients they were a common article of food. The flour of the Lupine is recommended for poultices. Δόλιχος, probably *Phaseolus vulgaris.* Ὤχραι,† probably *Pisum ochrus*, which grows wild in Crete. Πισος, though not exactly certain, *Pisum sativum.* Ὄροβος,‡ *Ervum ervilia*, in great repute as a remedy, so that Andromachus received it even into his Theriack; as food it was, like the Lupine, steeped to extract its bitterness, otherwise it produced bad effects. Φακος, *Cicer lens*, of extensive use, especially externally, and still more so in later times. Ἐρέβινθος *Cicer arietinum* in many varieties. Βατος, *Rubus fruticosus*, little esteemed. Αχρας, *Pyrus communis.* Μηλεα,§ *Pyrus malus*, various kinds of apples occur as dietetic remedies; and this tree appears to have been much more cultivated than the pear. Κυδωνια, *Pyrus cydonia*, the fruit used in diarrhœa. It became afterwards much more generally used, as may be seen in Celsus. The Arabians appear to have first introduced the use of quince seeds. Ουον,** *Sorbus domestica*, or perhaps *tormentalis*, the fruits are employed with the same view. Μεσπιλα, *Mespilus germanica*, and *tanacetifolia*; according to Sprengel, *Cratægus azaroleus.* Αμυγδαλη, *Amygdalus communis*, sweet as well as bitter; the first frequently as a demulcent and nutritive. The almond oil was also used; but, according to Dioscorides, prepared only from the bitter almond. Περσέα, *Cordia myxa*, the leaves were used outwardly in various female complaints. Κρανεια,|| *Cornus mascula*, the fruit is mentioned. Σήσαμον,¶ *Sesamum orientale*, the white, and *S. indicum*, the black; the first was probably only used in medicine as a demulcent and very nutritive remedy,

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[*] ην δε κ̀ σιτιον απ' αυτης η Βαλανος, κ̀ ποτον το Μελιττιον. Galen observes πολλοις των σιτηρων εδεσματω ομοιως τρεφȣσιν αι Βαλανοι.

[†] η πρασινος Δρυς. Θαμνος τις μικρος ος τις φερει τον βαφικον κοκκινον κοκκον ητοι το Πρινοκοκκιον.

[‡] The ancients used to mix pepper with the seeds of the Urtica.

[§] Δία τȣ οπȣ της συκης πηγνυȣσι τον Τυρον. Συκη αιγυπτια η ληγομενη Κερατια.

[¶] Σικυος ωμος——σικυος πεπων.

[||] Πεπων—πεπανον, τȣτεστι το πεπεμμενον κ̀ ωριμον.

[**] Celebrated among other reasons, because τον μεν χυλον γλυκυν, κ̀ ρυπτικον εχει, Pliny says, "Chrysippus medicus privatim volumen ei dicaverit."—But it was still more praised by Pythagoras and Cato.

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* Gaza remarks, οι πτωχοι ϗ οι Κυνικοι φιλοσοφοι ητρωγὰν τουτο τα δε παιδια ϗ' οι θεατρισται το μετεχειριζοντο εις τοπον νομισματων.

† Παραπλησιον μεν εισι την ουσιαν οι Λαθυροι τοις ωχροις τε ϗ φασηλοις.

‡ ἡ φυομενη ἐν τοις τελμασι. Lenticula palustris.

§ Μηλον, appears to have been a generic term for every fruit, κατα το μεσον πυρηνας εχων.

|| The fruit was called Κρανα, and used as food for swine. Schneider remarks, that the Scholiast Odys. 10. 242. calls it Πιτταξυς.

¶ Formed into cakes, and used at nuptials—φερεσθε τη Παρθενω δωρα σησαμιδας, κ. τ. λ.

** Ὄυα is used to denote the fruits of the service-tree. Editors.

particularly in consumption. Στρυχνος, *Strychnos;* here is much error and uncertainty: From Celsus, who calls the strychnos *Solanum*, it was supposed to be *Solanum nigrum*; Sprengel wished to show it to be *Physalis somnifera*, whose fruit is eaten in Corsica; but the leaves are particularly mentioned; wherefore the author, with justice, supposes, from Pliny who terms his *Cucubalus* also *Strychnos*, that the *Cucubalus bacciferus* is meant. Θρίδαξ, *Lactuca sativa;* its narcotic powers were not unknown, as appears from Celsus; Craterus recommends the juice in dropsy: it was as generally cultivated among the ancients as at the present time. Λινοζωστις, *Mercurialis annua*, frequently used in diet, and as it somewhat purged, as a dietetic remedy, where that was required; the seeds were also used for other purposes. Λαπαθον, *Rumex patientia*, though not quite certain; for the *R. acetosa* is often meant; it is a mild laxative. Under Λαπαθον * αγριον of the Hippocratists, the author marks *Rumex obtusifolius.* Ανδραχνη, *Portulaca oleracea*, frequently employed. Κοτυληδων, probably *Cotyledon umbilicus* and *serrata*; the leaves mixed with wheat flour, *leeks* (Lauch), and oil were used as food in uterine diseases. Αμπελος, *Vitis vinifera.* Grapes and raisins were used for the same purposes as with us; the juice of unripe grapes, Ομφακιον, † was used outwardly as an astringent. An infusion of the vine flowers, Οιναιθη, ‡ with which, however, the *vitis labrusca* may also be confounded, and according to Sibthorpe, perhaps even the *clematis vitalba*, was used against diarrhœa. Στεμφυλα § (lora vel lorea), used as a beverage in fever. The leaves and tendrils were applied externally to restore menstruation. Here follow some commonly known remarks upon wine, and upon inspissated Must, *defrutum*, of the Romans,—ἕψημα ‖ and σίραιον. The Grecian salt wine, *Græcum salsum*, ought to have been noticed here; it was a mixture of wine and sea-water exhibited as a purgative and stomachic, and used in the most remote antiquity. The mixture of wine with honey, *mulsum*, Μελιχρος ὀινος, 'Οινομελι, vinegar "Οξος, and oxymel 'Οξυμελι are well known; not, however, the mixture of milk with wine, 'Οινόγαλα, which indeed was the least used of all the preparations of wine.

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* μαλακυνει κ̉ κινει την κοιλιαν—a mild laxative, indicated by its name, Κοιλιαν λαπαζω.

† Other unripe fruits, &c., besides the grape, were called thus, ελαιον ομφακιον.

‡ Ανθος αμπελȣ.

§ Στεμφυλα, τα στερεα λειψανα της σταφυλης. According to Aulus Gellius, Lorea was a weak wine, made for the women and slaves, from the husks of the grape.

‖ το εψημενον γλευκος, a kind of mulled or inspissated wine.

Chapter III.—Mucilaginous, sweet, oily, and fatty remedies. "Ακανθος, * *Acacia Senegal*, not *Acacia vera*, as Sprengel supposes, but which the author very satisfactorily contradicts. The gum of this tree was very well known by the Hippocratists, and used also by them, particularly in uterine hemorrhage; but they used still more frequently the (astringent) leaves, against suppression of the menses, and to avoid abortion from diarrhœa. From the flowers, the well-known Egyptian oil was prepared. Πελεκῖνος, named by Dioscorides ἡδύσαρον, probably *Coronilla securidaca*, perhaps also *astragalus hamosus*, an insignificant remedy, used with myrrh in cases of barrenness. Κυτισος, *Cytisus*, without doubt *Medicago arborea*, a fodder much praised in Greece for increasing the milk of cows, hence given to women whilst nursing. 'Επικερας, *Trigonella fœnum Græcum*, used as with us, and chiefly externally. Λαγόπυρος, † *Lagurus ovatus*, whose woolly heads were chiefly applied externally, instead of charpie. 'Αγχουσα, *Anchusa tinctoria*, perhaps also *Echium creticum*, insignificant. Φλομος, ‡ many species of *verbascum*, probably also *Thapsus*, used externally as emollient cataplasms. Ιξος, *Viscum album*, to promote menstruation. Στρουθιον, the *Lanaria* of the Romans, commonly supposed to be *Saponaria officinalis*, but more properly *Gypsophila struthium*. This was used by the Hippocratists in diseases of menstruation, and in later times it has been much more esteemed. Βηχιον, *Tussilago farfara*, the name shows the use of the plant. Μαλαχη, *Malva rotundifolia sylvestris*, and probably many more kinds. Λινον, *Linum usitatissimum*, the seeds used internally, as with us at present. Πολυποδιον, probably *Polypodium vulgare*. Δρυοπτερις, said to be *Polypodium dryopteris*, perhaps also *Asplenium adiantum nigrum*. Γλυκύρριζα, *Glycyrrhiza echinata*, and *glandulifera*, at least this agrees better with the description of Dioscorides than *Glabra*. Μελι, *Mel*. Ελαια, *Olea europæa*, the leaves externally as astringents. Oil was more generally used than in modern medicine, and especially by the rich, in form of various fragrant oils formed for various purposes by means of wax, into ointments, which were generally preferred, animal fats being little or not at all used.

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* 'Ακανθα 'αιγυπτια (γηραια ακανθης ?) Mimosa nilotica.

† To restrain the bleeding of wounds, the use of lint is very ancient. Nonnius terms it Λινον μοτον, and frequently has the expression κρω δια μωτου. Suidas has Μοτωσειεν ιασεται δι' Οθονιων. In Scripture it occurs πατάξει ϗ μοτωσει ημας. Of lint, the ancients had ξυστος, scraped, τιλτος, plucked: and for other purposes στρεπτος twisted, ἐλλυχνιωτος, formed of a lamp wick.

‡ Φλομος, or Πλομος, used to intoxicate fish—πλομιζω τους Ιχθυας the woolly leaves were likewise burnt in lamps.

Chapter IV.—Astringent remedies. Ῥοδον, partly *Rosa centifolia*, and also *canina*, Κυνορροδον, and many other kinds, amongst which the author considers that marked Κυνοσβατον to be *Rosa pomifera.* Κενταυριον, probably *Centaurea centaurium*, named by Dioscorides Κ. μεγα. It is probable also, that *Chironia centaurium*, Κ. μικρον of Dioscorides is sometimes meant, and the more so, as the Hippocratists recommend it with wine, as a corroborant. Ἑλξινη, figured by Matthiolus as *Parietaria officinalis.* Κίσσος, *Hedera helix*, and undoubtedly many other species and varieties. Ξανθιον, *Xanthium strumarium.* Ἐρεικη, probably *Erica arborea;* this, like many other insignificant plants, was used externally in uterine complaints. Περιστερεων, *Verbena officinalis*, in later times in more repute than with the ancients. Ἐρυθροδανον, *Rubia tinctorum*, used particularly in diarrhœa. Φιλιριον, according to Galen, synonymous with ἀπαρίνη, hence perhaps *Galium aparine* or *Græcum.* Αδιαντον,* *Adianthum capillus veneris.* Σκολοπένδριον, according to Dioscorides, *Asplenium Ceterach*, is not easily mistaken; used in splenic diseases. Πενταφυλλον, more likely to be *Potentilla* P. reptans, than Tormentilla erecta; the root is used in intermittents. Another white Potentilla which occurs, may perhaps be *P. argentea.* Ροιδη, *Poterium spinosum.* Μυρσίνη,† *Myrtus com.* in all antiquity valued as a powerfully astringent remedy. Ῥοα, Σιδη, *Punica granatum*, more used even than the preceding. Λωτος,‡ *Celtis australis.* Ῥαμνος,§ difficult to determine, but according to Sprengel, *Zizyphus vulgaris.* Μελια, *Fraxinus excelsior* and *Ornus.* Μυρικη, Προμαλος, probably *Tamarix gallica.* Ῥȣς,* *Rhus coriaria.* Ἰτεα, *Salix.* Ὑποκιστις, † *Cytinus hypocistis.* Κιννάβαρις, from Dioscorides; it seems evident that this is meant for *Sanguis draconis;* the confusion of this with cinnabar appears very strange. Κηκιδις, *Gallæ*, *Quercus insectoria*, much used also in combination with other astringents.

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* Used often as a protective charm. Αδιαντȣ αφεψημα occurs in Nonnius as a diuretic.

† A wine οινος μυρσινιτης was made from the fruit.

‡ Λωτος——εγγλυσσει, επιεικεως εον στρογγυλον, μεγαθος κατα μηλον. A second kind is mentioned, from which ποιευνται εκ τȣ καρπȣ τȣτȣ οι Λωτοφαγοι ϗ οινον——κατα μεντην γευσιν ηδυς——ȣ δυναται δε πλεον δεκα μενειν ημερων.

§ Ραμνος. Θαμνος τις ακανθωδης—two kinds are mentioned; the white is supposed by Sprengel to be *Lycium europæum*, sacred to Æsculapius, and therefore αλεξιφαρμακον; the second kind is black, and supposed to be *Rhamnus lycioides.* Sprengel further remarks, that it is not ascertained whether this shrub grows in Greece, but the *Rhamnus infectorius*, whose ripe berries are black, grows there abundantly.

Chapter V.—Acrid remedies. Ναρκισσος, probably *N. poeticus;* the oil from the flowers is mostly used. Ἀσφοδελος, *Asphodelus ramosus*, the root used in jaundice. In later times, this root was more esteemed than even by the Hippocratists. Σκόροδον, *Allium sativum*, likewise Πράσον *allium porrum* (perhaps also *A. ampelo-prasum*) and Κρομμυον *allium cepa*, ‡ and *fistulosum*, belong here. Μώλυζα § is doubtful, but probably the Μῶλυ of Homer, and according to Matthiolus's description, the *allium subhirsutum* would nearest resemble it. Βολβος ‖ and Βολβιον is, probably, *Hyacinthus comosus;* the two last named articles appear only as materials for pessaries, to form which the Hippocratists used the whole materia medica. Σκιλλη, *Scilla maritima*; the antiquity and belief in the wonderful powers of this remedy, are coeval with the human race. Ἀρον, *Arum maculatum*, *italicum*, and *Dioscoridis*, often used as a pectoral and discutient remedy. Δρακοντιον, *Arum dracunculus*, used as the last named.

Ἐλλέβορος λευκος; respecting this article and the following, the author has made a proper use of the learned labours of his predecessors: Schultze's ¶ classical dissertation "*De Elleborismis veterum*," merits particular notice, with respect to the medical use of the remedy. Unfortunately, however, every doubt is far from being cleared up, and we have in this work, with much acuteness, pointed out to us the contradictions that occur in the antient descriptions of the *white Hellebore* and *Veratrum album*, which have hitherto been unanimously supposed to be the same. Sibthorpe's opinion, that the *Digitalis ferruginea* is meant, receives indeed support, but by no means full proof. If no other reasons occur, therefore, physicians may not so easily abandon the former received opinion. The author gives no decided result, but merely confines himself to the description of the general therapeutic rules on Helleborismus, drawn from the writings of Hippocrates. It is well known that the white hellebore was the most common emetic. Σησαμοειδες, an oft-mentioned remedy, used to restrain the violent action of hellebore. This Dr Dierbach is inclined to consider as *Isopyrum thalictroides*, the great Sesamoides of Dioscorides. The small sesamoides of Dioscorides the author holds to be *Astrantia minor.* It is more easy to determine the black hellebore, Ελλεϐορος μελας, εκτομος, since it is indubitable, that the H. orientalis discovered by Tournefort, or H. officinalis, which agree with each other in their effects, and also agree with our H. niger, are to be considered as alike. Βατραχιον, frequently recommended in uterine diseases; to determine precisely the species used by the Hippocratists, is impossible, and indeed unnecessary, since all the species of *Ranunculus* agree more or less in their effects. The four species of Dioscorides was formerly supposed to be *Ranunculus asiaticus, lanuginosus, muricatus* and *aquatilis;* but for the second kind, the author wishes to insert *R. philonotis.* Ανεμωνη, externally in pessaries, to promote menstruation, may be considered, without any great error, to be *Anemone stellata* and *coronaria.* Σταφις αγρια, *Delphinium Stapisagria, abortive* and *attrahent.* Μελανθιον in uterine affections, *Nigella sativa* or *damascena.* Γλυκυσιδη, *Pæonia officinalis* and *corollina*, the root and seeds used to promote labour pains. Ισατις, *Isatis tinctoria*, the leaves and juice used in erysipelatous inflammation. Ισατις αγρια, is probably *Isatis lusitanica* or *aleppica.* Καρδαμον, σαυριδιον, *Lepidium sativum*, grows wild in the East and in the Greek islands, has various uses, especially in diseases of the breast. Λεπιδιον, *Lepidum latifolium*, used only externally in ephelis. Θλασπι, *Thlaspi Bursa pastoris*, used for pessaries; according to the description of Dioscorides, this includes more species than *Bursa pastoris.* Ναπυ, *Sinapis nigra* and *alba*, perhaps also many other species, agreeing in their effects; chiefly used in pectoral complaints, to promote expectoration. Sinapisms do not occur among the Hippocratists, though very frequently afterwards. Ευζωμον, *Brassica eruca*, used as the above. Ερυσιμον, *Sisymbrium polyceratium*, not *Erys. officinale*, as formerly supposed, but referred to the former by Matthiolus: used in diseases of the uterus and of the chest. Λευκοϊον, *Cheiranthus Cheiri*, more probably than *incanus;* the root and seeds were used in uterine complaints. Τηλεφιον, probably the ancients marked several plants with this name: hence the different opinions of authors who have supposed it to be either *Sedum telephium*, or *Zygophyllum fabago*, or *Ornithopus scorpioides*, or, as Sprengel supposed, *Sedum anacampseros*, or *Sedum Rhodiole* and *Cerinthe minor*, to which last the description of Dioscorides best agrees. The author considers the *Sedum*

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* Used as an astringent, and also a condiment, προς αρτυσιν και καρυκευσιν των φαγητων.

† Υποκιστις a parasitic plant, which grows upon the roots of the cistus; its expressed juice is used in medicine.

‡ Επι δε κρομυον ποτῳ ὄψον Homer Iliad. A. (editors).

§ Μώλυζα, caput allii apud Psellum medicum, (editors).

‖ Any root of a round form found in digging the ground was named Βολβος.

¶ Toxicologia veterum.

acre as the Hippocratic *Telephium*: used externally for pessaries. Κρινανθεμον, *Semper vivum tectorum*, perhaps also *tenuifolium*, an antihysteric remedy. Ἀμπελος ἀγρια, ψιλωθριον*, ἰχέτρωσις, μοδος, *Bryonia dioica*, perhaps also *cretica*; the root in wine was used in tetanus. Ελατηριον, an universal purgative, *momordica elaterium*, a fæcula from the expressed juice, dose from 4 to 12 grains: *vide* Schultze's excellent dissertation De Elaterio, which the author might have consulted with advantage. Κολοκυνθις αγρια, *Cucumis colocynthis*, used only for pessaries and as an emmenagogue. Κνῆκος, † *Carthamus tinctorius*, seeds used to purge. Χαμαιλεων μελας, *Carthamus corymbosus*, a poisonous plant dreaded by the ancients; among the Hippocratists it occurs only as a vulnerary, with figs and ox-gall. Καμμορον, ‡ very obscure, and deserving fresh investigation. Sprengel considers the plant of Dioscorides to be *Aconitum cammarum*; De Candolle as *Ranunculus thora*, and Matthiolus as *Doronicum pardalianches!* Σκαμμωνια, a well known purgative, and probably *Convolvulus scammonia*, for Sprengel's *Conv. farinosus* does not answer the description; the author offers to notice *Conv. sagittifolius*. Επιθυμον, *Cuscuta minor*, a long forgotten purgative, but much used by the ancients. Τιθυμαλλος, ‖ *Euphorbia Characias*, juice drastic. Πεπλιον, *Euphorbia peplis*, as the former. Πεπλος, Μηκωνιον, *Euphorbia peplus*, or perhaps *falcata*, drastic, especially used in dropsy. Ἱπποφαὲς, ¶ *Euphorbia spinosa*, used as the former, and also Κυπαρισσος, *Euphorbia cyparissias*; for the great wolfsmilch, spurge, *Euphorbia dendroides* appears to be meant. Κροτων § (wunderbaum) *Ricinus communis*, perhaps also *Africanus*, the root used internally in hysteria. Κνηστρον, or Κνεωρον, *Daphne gnidium*, the well known *grana cnidia*, an important remedy among the Hippocratists. Δαφνοειδες, *Daphne laureola*, used to inject into the uterus. Αριστολοχια,* *Aristolochia pallida, sempervirens*, and *boetica*, or *altissima*, especially used in uterine diseases. Κυκλαμινος, *Cyclamen persicum* and *hederæfolium*, the acrid root used as a diaphoretic, and the juice in consumption. Πολυκαρπον, not certain if *Passerina ciliata* and *hirsuta*, used externally in diseases of the uterus. Καππαρις, *capparis spinosa*, the bark and root used as pectorals. Αναγαλλις, *Anagallis arvensis*, used with alum as an application to ulcers. Πηγανον, *Ruta hortensis*, of great repute, and frequently employed. Ἀκτη,† *Sambucus nigra*, the juice of the leaves as a laxative. Λευκοιον μελας, Ἰον, *Viola odorata*, the root with wine used in cancer uteri, the seeds as pellens. Βαλανος ἀιγυπτιος, *Guilardina Moringa*, used only as a pessary with oil of lily. Κανθαρις, *Meloe Cichorei*, in dropsy. Βουπρηστις, probably *Carabus lucidus*, used in pessaries like cantharides.

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* Ψιλωθριον, the name indicates it to be a depilatory.

† Κνηκος, used also for domestic purposes, ἐν τῃ τυροποιΐα ὡς πυτιαν προς πηξιν τȣ γαλακτος.

‡ Καμμορὸν, considered by Nicander as aconite; by Hippocrates it is termed a refrigerant, καταψυκτικον.

‖ Τιθυμαλλος, seven species are described by Dioscorides; the juice or berries of all were used as emetic and purgative. In France the berries of Euphorbia lathyris are given to purge and vomit, under the name of Graines de grande Epurge. Schneider observes, that the root of Euphorbia cyparissias was formerly called Peasant's Rhubarb, Bauerrhabarber; and in Russia, the juice of the *Euphorbia palustris* is still used by the peasants as a purge.

¶ Ιπποφαες, is perhaps a species of Dipsacus or Thistle, used by the clothiers in England. It is said to have πλεσιον των φυλλων ακανθας; and with regard to its use, μεταχειριζονται οἱ ἐριȣργοι προς τριβην ϗ ξεσιν των ὑφασματων. Hippocrates likewise names the plant Κναφος, ᾧ γναφεῦσι τα ιματια.

§ Κροτων, the σετελι κυπριον, or Κικι of Herodotus.

Chapter VI. Aromatic, oleo-ætherial remedies. Πεπερι, doubtless, *Piper nigrum* and *longum.* The pepper mentioned in the genuine writings of Hippocrates is probably, as the author acutely remarks, the *Unona æthiopica.* The prescription of this remedy in pain of the side, tetanus, &c. is well known. Καρδαμωμος, *Amomum cardamomum*, used as a pectoral and emmenagogue. Ἰρις, *Iris florentina.* The ointment of the violet root was famed in all antiquity as an anodyne. Καλαμος ἐυωδης, *Calamus aromaticus*, used only externally. Κυπειρος, *Cyperus rotundus*, its fragrant and knobby roots were frequently used for ptisans and fomentations. Σχοινος ευοσμος, *Andropogon schœnanthus*, used in antispasmodic astringent ptisans and fomentations. Δαφνη, *Laurus nobilis*, the root, bark, leaves and berries were used in numerous diseases. Κινναμωμον, *Laurus cinnamomum.* The author does not venture to distinguish the various kinds, of which many were in use. Κασια. According to Dioscorides, inferior kinds of cinnamon pass for it, but nothing can be said with certainty. Many aromatic plants occur together, as Ἐλελίσφακος, *Salvia*, probably *Officinalis*, and perhaps many other species of it in which Greece abounds. Ἀιθιοπις, doubtful if *Salvia æthiopis.* Ὁρμινον, that of Dioscorides agrees pretty well with *Salvia horminum*; but that of Hippocrates is not evident. Ὑσσωπος probably is none of the plants commonly supposed. *Origanum*

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* Αριστολοχια, very celebrated ἐις την γεννησιν των παιδων. Cyclamen europæum?

† Ακτη, expressively termed in Romaic κουφοξυλια.

Onites, Teucrium Pseudhyssopus, Hyssopus officinalis, have severally been taken for the hyssop of the ancients; the modern Greeks suppose it to be *Satureja juliana.* Μίνθη, ἡδυοσμον, *Mentha sativa*, and perhaps *crispa.* Γληχων, *Mentha pulegium.* Θυμος, probably *Satureja capitata.* Θυμβρα, *Satureja thymbra.* Κεστρον, the celebrated *Betonica* or *vettonica* of the Romans; *Betonica officinalis*, which has been unjustly rejected from the modern Mat. Medicas. Πρασιον, Marrubium vulgare, and many other species no doubt, as, *velutinum, peregrinum, creticum.* Ψευδοδικταμνος, *Marrubium pseudo-dictamnus.* Δικταμνος, *Origanum dictamnus*, much in repute from its powerful action on the uterus. Ὀριγανον, *Origanum heracleoticum*, and *creticum.* Πολυκνημον, *Melissa cretica.* Ερπυλλον, *Thymus serpyllum.* Καλαμίνθη, under this title many plants are described by Dioscorides, which agree pretty well with *Thymus*, or *Melissa calamintha, Melissa nepeta*, and *Mentha aquatica*, also *Nepeta cataria.* Ὤκιμον,* *Ocimum basilicum.* Επιπετρον, *Ocimum monachorum*, not very probable. Πολιον, *Teucrium polium.* Ἀμάρακος, to all appearance *Teucrium marum*; the *Amaracinum* was also known to the Hippocratists. Ἀβρότονον, *Artemisia Abrotanum* and *Santolina Chamæcyparissus*, used in pleurisy. Ἀψινθιον, *Artemisium Absynthium*, used in jaundice. Ἀρτεμισια, contains many species of our artemisia, and without any great error, *A. Arborescens, campestris*, also *pontica* and *spicata*, lately recommended again in epilepsy; important remedies in uterine complaints. Βάκχαρις, *Gnaphalium sanguineum.* Κονυζα δυσοσμος, *ambrosia maritima*, used with castor in hysteria. Κονυζα ευοσμος, very doubtful if *Inula bifrons.* Ευανθεμον, much used as an emmenagogue, and perhaps not different from our common camomile, *Matricaria Chamomilla.* Galen calls it Ανθεμις, which refers it still nearer to the camomile. Πολυοφθαλμος, a species of *Anthemis*, perhaps *valentina*, or *discoidea.* Παρθενιον, probably includes several plants, but among which, *Pyrethrum Parthenium* was certainly the most used. Ἑλένιον, *inula helenium*, used only for antihysteric potions. Σεσελι μασσαλεωτικον, *Seseli tortuosum*, (*Tordylium officinale*). Ανησον, *Pimpinella Anisum.* Σελινον, *Apium Petroselinum*, as a diuretic. Μάραθρον, *Anethum fœniculum.* Ἱπποσελινον, generally taken for *Smyrnium Olusatium.* Κριθμον, *Crithmum maritimum*, used for the table, and as a diuretic. Ἱππομάραθρον, appears to be *Cachrys sicula.* † Καχρυς, the fruit of the *Libanotis, cachrys, cretica.* Κορίαννον, *Coriandrum sativum*, recommended as a good pectoral in phthisis. Καυκαλις, *Caucalis, caucalis daucoides.* Δαυκος, *Athamanta cretensis*, the seeds were formerly kept in the shops under the name of *Semina dauci cretici.* Κυμινον αιθιωπικον, *Cuminum cyminum*, used in female complaints. Ανηθον, *Anethum graveolens.* Σταφυλινος, *Daucus guttatus*, and *carota.* Πευκεδανος, *Peucedanum officinale.* Σιον, *Sium nodiflorum*, a very usual pectoral remedy. Θαψια, *Thapsia garganica*, the root is very acrid, and excites vomiting; the Hippocratists used it against the coughs of children, and also in conjunction with elaterium and white hellebore. Ναρθηξ, *Ferula communis* and *glauca*, used in uterine complaints. Πανακες, the Hippocratic name is Π. ἡρακλειον, *Pastinaca opoponax*, common opoponax; the opinion that it is *Heracleum panacea*, appears futile. Αμμονιακον, the well known gum resin, used from the earliest antiquity, but whose origin is still obscure; the *Ferula orientalis*, is commonly taken for it, but this remains still as doubtful as Willdenow's *Heracleum gummiferum.* Σαγαπηνον, Ferula persica, though not quite certain. Χαλβανη, our galbanum, whose origin from *Bubon galbanum* is by no means decided. Σιλφιον, *Ferula assafœtida*, the *Laser* * of the Romans, as an aromatic and medicine in great repute, and as amongst us, used in a great variety of diseases. The author holds the median and cyrenaic to be the same. Αμωμον, a spice not exactly determined, having been variously designated as the seeds of *Myrtus pimenta*, *Anastatica hierochuntica*, *Piper cubeba*, *Cissus vitiginea* and *Sison amomum.* The author decides in favour of none of the above. Αγνος, *Vitex agnuscastus*, used in diseases of the uterus and spleen, and against ascarides. Ναρδος, it is no easy matter to distinguish the various species of nard of the ancients. Dioscorides enumerates five. 1. The Indian *Valeriana spica* or *Jatamansi.* 2. The Syrian, perhaps *Andropogon nardus*, or *Nardus indica.* 3. The *Sampharitic*, quite uncertain. 4. The celtic, *Valeriana celtica.* 5. The *Nardus montana*, usually supposed to be *Valeriana tuberosa ;* the Hippocratic nard, which occurs only as a uterine remedy, is not to be detected. Μελιλωτος, used in the cure of bad ulcers, probably is the *Melilotus officinalis*, and some others of the same family.

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* Ωκιμον, called by Aetius βασιλικον. A very strange superstition prevailed respecting the sowing of this plant, Φασι γαρ δειν καταρασθαι τε ϗ βλασφημειν σπειροντες, ἐι μελλει καλον εσεσθαι και πολυ.

† Called by Nicander, Λιβανωτὶς καγχρυφορος, or καγχρυόεσσα.

Chapter VII.—Resinous, and Balsamic Remedies. Ἀσφαλτον, used for pessaries, and the vapour of it in cynanche. Δαις, the Tæda of the Romans, contains many kinds of *Pinus*, *P. Picea*, *orientalis*, *halepensis*, *maritima*, *&c.* boiled in wine and mixed with various other remedies, used to promote menstruation.

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* Succum vocant Laser, magnificum in usu medicamentisque et ad pondus argentei denarii pensum.

Vinum resinatum was also much used in later times. Resin, soot and pitch, often occur among the Hippocratists, and were used for the same purposes. Πιτυς, *Pinus pinea*, the bark used as above; the fruit, κοκκαλοι *nuclei pinei*, made into a tincture with myrrh, used for complaints of the chest; and with honey in inflammation of the lungs. Ἄρκευθος, *juniperus communis*, perhaps also *phœnicea*, the berries occur as an uterine remedy. Κεδρες, many trees and shrubs have this appellation, the author refers the cedar of Hippocrates to *Juniperus oxycedrus*, used as the former, and under various forms, among which the cedar oil and cedar wine have been more especially distinguished—μελι κεδρινον, recommended for the healing of ulcers, comes from the *Pinus cedrus*, which tree is probably the great cedar of Dioscorides. Κυπαρισσος, *Cypressus sempervivens*, the fruit in wine was used in Menorrhagia and other uterine diseases. Στυραξ, *Styrax officinale*, used for similar purposes. Εβενος, *Diospyros ebenum*, employed with safran and other remedies in eye complaints. Τέρμινθος, *Pistacia terebinthus*, like other analogous remedies. Σχινος, *Pistacia Lentiscus*. The mastic Ρητινη σχινινη, was mixed with ointments, as also the oil of mastic from the fruit. Βαλσαμον, our balsam of Mecca, occurs seldom among the Hippocratists, but its use is the same. Λιβανος, one of the most ancient remedies; the Arabian comes from the *Amyris Kafal*, the Indian, from *Boswellia serrata*, used in pectoral and uterine complaints, and very frequently externally. Σμυρνη, as long in use as the former, but not so clear as to its origin. The *Amyris kataf* is generally supposed to be the tree which produces it; its use is similar to the former remedy. Ὑπερικον, probably *hypericum crispum* and *empetrifolium*, which do not seem different in effect from *H. perforatum.* The Hippocratists administered their *Hypericum* in complaints of the chest, and in uterine affections. Τραγιον, perhaps *Hypericum hirsinum*, used to obviate sterility. Κιστος, *Cistus villosus*, and *salvifolius*, the decoction with sage was used to cleanse ulcers. Λαδανον, *Cistus creticus*, a celebrated remedy of the ancients, which, however, was only used by the Hippocratists, mixed with rose ointment and wine, to prevent falling out of the hair. Ἀσπαλαθος, difficult to explain, but is probably *Elæagnus spinosa.* Τριφυλλον, without doubt *Psoralea Bituminosa*, used with silphion in intermittents. Αιγειρος κρητικη, *Populus græca*, the resinous buds were used to shorten labour pains, and the resin itself with human milk, against specks of the cornea. Χαμαιλεων, *Acarna gummifera.* Καστορος ορχις, as the name indicates; this was supposed to be the testicle of the beaver; which error was first contradicted in the sixteenth century by Matthiolus. It frequently appears in the writings of the ancients, and was used for the same purposes as with us, but still more extensively.

Chapter VIII.—Narcotic remedies. Αἶρα, *Lolium temulentum*, used almost solely in uterine diseases. Κροκος, *Crocus sativus*, much praised in complaints of the eye, and outwardly in different ointments. Κωνειον, *Conium maculatum*, merely used in uterine complaints. Υοσκυαμος, *Hyoscyamus niger*, *reticulatus*, *aureus* and *albus*, which are all described by Dioscorides. The last may probably have been that of Hippocrates, which, with mandragora and wine, was used in ague, also in epilepsy, and externally and internally in uterine complaints. Μανδραγορας; * that of Dioscorides is, without doubt, *Atropa mandragora;* but that of Hippocrates, in its effects, comes nearest to the *Atropa Belladonna*. The root is recommended in *melancholia suicida*, and convulsions, in such a dose as not to produce violent excitement; it was also used against agues and other diseases. Μηκων, *Papaver somniferum;* the seed, as an article of diet, and the juice of the poppy heads and leaves, are often noticed as a remedy; but opium appears to have been little, or not at all, used by the Hippocratists, which is the more strange, as it was known before their time, and after them; great abuses were committed with it.

Chapter IX.—Sulphur, Alkalies, Earths, Stones, Salts. Θεῖον, sulphur used in asthma and cutaneous eruptions. Νίτρον, Λίτρον, Matthiolus has proved that soda, and not nitre, was meant. It was frequently used externally for ulcers, and internally also in many complaints, but very empirically. Τιτανος, lime prepared by calcination, from sea-shells and marble; it was used as an escharotic in lepra. Γυψος, gypsum administered internally to puerperal women, mixed with flour, to promote the lochiæ. Μιλτος, probably Armenian bole. Γη κεραμις, Potter's clay externally used as cooling cataplasms, and to determine, by its drying, the seat of internal inflammations. Γη σμηκτρις, probably the unctuous fuller's earth, used as a cosmetic, mixed with rose ointment, to prevent the falling off of the hair. Κισσηρις, † mixed with other remedies, used outwardly in eruptions. Στυπτηρια, Alumen nativum. Στυπτηρια σχιστα, Alumen scissile, used externally as an astringent, and much commended to cleanse ulcers. Ἅλς, Sal, used externally in eruptions; many rules also are given for its dietetic use.

Chapter X.—Metallic remedies. Μόλιβδος: the following saturnine remedies occur in Hippocrates. 1. μολιβδαινα, a yellow ore of lead used, rubbed up with oil, to remove wrinkles from the face, and to heal ulcers. It may be here remarked, that the ancients were very liberal in the use of lead, employing it in considerable quantity as a cosmetic, and to remove cutaneous eruptions, without regarding the consequences. The knowledge of this remedy continued, even to later times, very defective. 2. Μολιβδος πεπλυμενος, an oxide of lead used externally. 3. Λιθαργυρον, αργυριον ανθος, χρυσιτις, various oxyds of lead. 4. ψιμμιθιον, white lead. Χαλκος – 1. Χρυσοκολλη, from Cyprus, used in ointments for fistulæ and ulcers. 2. Χαλκῶν ρινηματα and χαλκῶν ανθος, are no more than a fine granulated copper; this remedy was in much repute even in pectoral complaints. 3 Λεπις χαλκῶν, used internally in dropsy; externally, with sandarach, as a caustic. 4. Σποδος, Spodium, as an ointment in diseases of the eye. 5. Κεκαυμενος χαλκος, burnt copper, was variously prepared, and contained sometimes sulphurated copper, sometimes vitriolated or muriated copper; the best is of a cinnabar colour. 6. Ἰός,* as an astringent remedy in eye diseases. 7. Κυανος,† vitriolum cupri, used for ulcers. Σιδηρος, Ferrum. 1. Χαλκοιτις, Μελαντηρια, Μισυ,‡ are not easily determined; but the first and last appear to be improperly referred to preparations of iron; they are used externally in diseases of the eye. 2. Σκωρια σιδηρου, used against sterility. 3. Λιθος μαγνησιος,§ used as an expectorant. Αρσενικον, and red arsenic, σανδαραχη; the first, used only externally, in ulcers; the latter, besides many external uses, employed internally in hysteric complaints. Tetragonon, by some dubiously considered as stibium.

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* Μανδραγορα, δια δε τȣ μανδραγορȣ υπνον Ιατροι κατεπαγȣσι, ϗ τῳ Οπιω τας σφοδρας οδυνας κατακοιμιζȣσι.

† Pumice Stone—ελαφροπετρα.

In a short Supplement, the author treats of Sponge, Σπογγος, Bile, Χολη, Horn, Κερας, and raw Wool, οἰσυπηρα ἔρια, *Lana succida* of the Romans; as also of some other remedies, whose real names cannot be well ascertained. An Index concludes the work, which, however, does not afford so much advantage as it might have done, since it gives only the modern names of the remedies.

The author, in this work, executed with much judgment, has brought forward a subject of very great importance. Every one acquainted with ancient medicine must feel convinced that, by carefully sifting the articles of the ancient Materia Medica, an essential service must be rendered to our own, and must restore a multitude of useful observations, which remain at present unintelligible fragments. The Hippocratic Materia Medica, to which the great teacher of antiquity contributed but little, must be considered merely as the foundation for subsequent and better observations. We therefore hope that still more comprehensive views of the subject may follow this work, from the pen of the author, and from others of equally extensive learning, who, by making proper use of the labours of those who have preceded them in the same path, may enable us to profit by what is really useful in the works of Galen, Oribasius, Ætius, Alexander of Tralles, Paul of Ægina, &c.

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* Ιος—σκωρια ϗ μαλιστα εκ χαλκου.

† Lapis Lazuli?

‡ Μισυ—ξανθος χαλκανθος.

§ Λιθος—μαγνησιος—not our loadstone, ὁ τον σιδηρον ἑλκων, which Hesychius names, ἡρακλειωτις.

III.

A Short Treatise on the Section of the Prostate Gland in Lithotomy; with an Explanation of a Safe and Easy Method of conducting the Operation on the Principles of Cheselden. Illustrated by Engravings. By C. Aston Key, Surgeon to Guy's Hospital, and to the Magdalen. London, Longman, &c. 1824.

The lateral operation of lithotomy, as it was improved by Cheselden, furnishes one of the happiest examples of the triumph of science and art over ignorance and empiricism, that the history of surgery can boast. It is impossible to trace the literary history of this operation from the rude and ignorant attempts of Frere Jacques to the perfection which it attained in the hands of Cheselden and his successors, without being convinced of the advantage which correct anatomical knowledge confers on operative surgery. In cutting, according to this method, into the bladder, for the purpose of extracting a stone, it is requisite not only to know well the several parts which are to be divided, but to understand perfectly the direction which the incisions are to take, at once for the sake of accomplishing the purpose of the operation, and to prevent injury to parts which it is either unnecessary or unsafe to divide. On this account, it is scarcely possible to be too familiar with that species of relative anatomy which enables the surgeon, in a single moment, to represent mentally the situation and direction of every part of the urethra, from the triangular ligament to the triangle of the bladder; and whoever has dissected and examined these parts most frequently and most attentively, will invariably perform the lateral operation of lithotomy with greatest confidence, and, we may assuredly add, with greatest success.

Of all the steps of this operation, the most important is unquestionably the immediate incision into the bladder,—in other words, the division of its neck and prostate gland; and of this incision, the most important point to be clearly understood, is the direction which the incision is to follow. Impressed with the truth of this observation, the author before us has undertaken, in the present treatise, to place this part of the operation before the profession in such a light as shall render its principle manifest, and its performance uniform and regular in practice. But before we proceed to bring the merits of the author before the eyes of our readers, we have to advert to a singular species of misstatement, which appears on the very threshold of his disquisition, and which we have equal difficulty in explaining, and pain in observing.

Mr Key, in his preface, states, in pretty plain language, that he regards the mode of division of the prostate gland as the true principle of this operation; and afterwards, in a short historical review in the first pages of his Treatise, he informs us, that, "in his first operation, Cheselden adhered to the plan of Frere Jacques and Raw; but, from the ill success attending it, he was soon induced to lay it aside. He then practised the operation," continues Mr Key, "which, from the lateral division of the prostate gland, has since been denominated the Lateral Operation." This information is unquestionably entitled to the merit of novelty; but we regret to say, that it is not consistent with the historical facts of the case. We have the honour to inform Mr Key, that Cheselden was not the first to perform the lateral operation, as he represents; that this operation was certainly performed by Frere Jacques, and at least probably by Raw; and that, whether it be his pleasure to term the operation *lateral*, from the circumstance of the lateral division of the prostate gland, or not, it is certain that Cheselden had the merit simply of improving it by his profound and correct anatomical knowledge of the parts concerned in the operation. That these are not mere assertions, but correct historical statements, will readily appear from reference to the usual authorities, with several of which, at least, our author proves his acquaintance.

The history of an improvement in science is rarely investigated, until it acquires interest by its novelty or actual utility; and that of the lateral operation of lithotomy has not been exempt from this general fate. It was not till the operations of

Frere Jacques began to excite interest, and the improvements of Cheselden attracted attention, that surgeons thought of tracing the origin and history of this operation; and according to the account of Deschamps, all authors that ever had written, Greeks, Romans, Arabians, physicians, surgeons, and quacks, were successively ransacked, in order to ascertain if there was any legitimate pretext for depriving the monk of the merit of originality. The results of this laborious consultation are given by Deschamps, and they serve to show the mortal antipathy which all men, and especially all surgeons, have in allowing to any single individual the merits of an important change in science or art. We know not whether Raw was serious, or wished merely to give a civil answer, which means nothing, and might throw his querists off their scent, when he replied to all their questions, *Celsum lege;* but the sentence, *transversa plaga facienda est qua cervix aperiatur*, was found in the description of lithotomy by the physician of the Augustan age;* and this was enough to convince those who were willing to be convinced. This sentence, at all events, Deschamps thought sufficient to warrant the conclusion that we find mentioned in the description of Celsus, not the method of Cheselden, but only the place and the direction of the incision. As, however, the Celsian method was to cut on the *stone*, or what is technically named *cutting on the gripe;* and as the method of Frere Jacques was by cutting on the staff, this was thought a sufficient peculiarity to leave the Friar in possession of his discovery.

Another claimant for the merit of the lateral operation, was discovered in Peter Franco, who, in 1561, published the following account of his mode of cutting into the bladder. "The incision is to be made between the fundament and testicles, two or three fingers breadth along the commissures or perinaeum; but it is requisite to have a silver cannula like a sound, but open without to receive and convey the knife (a grooved staff is meant), which is to be introduced through the urethra into the bladder; an assistant is to hold this firm, supporting it somewhat against the perinaeum, but always turned a little towards the right, in order to make the incision exactly on it, and to enable the knife to enter readily; then taking the knife at the situation of the cannula, it is requisite to cut the neck of the bladder upon its cavity, "*il faut couper le col de la vessie sur la cavité d'icelle,*" (on the groove of the staff); this being done, the operator will carry the knife along the groove, which will cut on both sides; after which, the gorget is to be introduced upon the groove, the cannula for this purpose being lowered before by the assistant, in order to allow the gorget to enter the bladder more easily." * Afterwards, this author assigns various reasons, in consequence of which, 'il faudra donc se garder de copper la vessie hors de son col, la óu il y a graisse óu muscle.' He used the gorget only for the purpose of introducing the forceps.

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* A. Corn. Celsi de Medecina libri octo, lib. VII. cap. XXVI. 2.

Jacques de Beaulieu, commonly called Frere Jacques, performed his operation, it is well known, first on the dead body at the Hotel-Dieu, in presence of Mery and other qualified surgeons; and Mery having carefully dissected the parts which had been cut, found "that the operator first divided about one inch and a half of fat, then that he had introduced his scalpel between the *erector* and left *accelerator* muscles, but without wounding them; and lastly, that he had cut the neck of the bladder laterally its entire length, and about two inches of the body of the organ." † But this is not the sole evidence on the point. Mery states expressly, that, in performing his operation, Frere Jacques, "coupe à las verité *le corps des prostates*, le col entier de la vessie, par le côté, et un peu son corps.''‡ It is no doubt true, that subsequently, when in the height of his reputation and popularity, he cut forty-two patients at the Hotel Dieu, and eighteen at la Charité, of whom twenty-three died shortly after operation,—it was found on dissection, that in some the bladder was opened in its fundus, in others its neck was detached from the urethra, in females the vagina was invariably penetrated in two opposite places, the rectum was frequently opened in both sexes, and in all there was much laceration;—yet, it cannot be denied, that the simple circumstance of finding the prostate gland divided after his mode of operating, and of Mery publicly reporting this, cannot fail to show, that the merit of Cheselden did not consist in being the first to divide this gland.

The operation of Frere Jacques was not left entirely unimproved even at this period; for Mery, in his Report, pronounces it preferable to the Marian, or that with the great apparatus, providing the incision was directed on a grooved staff; if the incision of the bladder was begun somewhat higher; and if the dilatator was suppressed. In other respects he approves of the oblique incision between the raphe and the ischial tuberosity, penetrating between the *erector* and *accelerator* of the left side, to divide the neck of the bladder and a little of its body. It is remarkable that these improvements, which were essentially to combine the method of Peter Franco with that of Frere Jacques, were actually adopted by the latter, and published in 1702. "The staff," says Deschamps, "being introduced into the bladder, he holds it in the left hand; he cuts the raphe obliquely by the tuberosity of the ischium; he enters by the erector and accelerator muscles; he cuts the neck of the bladder in its whole extent, and introduces the forceps by the incision." ‖

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* Traité Historique et Dogmatique de l'operation de la Taille, par Jos.-Fr. L. Deschamps, Chirurgien en chef, etc. tome ii. 1796, p. 114.

† Traité Historique et Dogmatique de l'operation de la Taille, par Jos.-Fr. L. Deschamps, tome ii. p. 73.

‡ Ibid. p. 74.

Of the method employed by Raw, his illiberal jealousy, it is well known, prevented him from leaving any traces; and all that we learn of the incisions which he practised, and of the direction which they followed, is derived from Albinus, who witnessed his operations. According to the account of this distinguished anatomist, Raw having sought a spot about one or two inches from the anus, towards the ischial tuberosity, divided first the skin and fat, by a long incision directed from above downwards; introduced the finger or thumb of the right hand into the wound, towards that part of the bladder which he proposed to cut; withdrawing it, introduced the point of a bistoury, and directing its point circumspectly towards the sound, which he had previously felt,—cutting gently what he encountered; and, when he had ascertained that the point of the bistoury rested on the staff, and was retained by the walls of the groove, carrying it cautiously, but steadily, upwards and downwards, he cut the bladder with a considerable wound. ¶

It is singular that subsequent inquirers have very much perplexed themselves about what appears to us abundantly simple in this narrative, namely, whether Raw divided the neck of the bladder, or cut the organ above its neck. "Ouvrit-il," says Deschamps, "la vessie *au dessus de son col?* N'ouvroit-il simplement que le col, sans toucher à la partie membraneuse; interessoit-il une petite portion de la partie membraneuse et le col de la vessie?" These questions do not appear to us to demand so much inquiry, doubt, and ingenious conjecture and supposition, as they have produced. Deschamps indeed gravely remarks, that Raw, who alone could answer, carefully concealed all means of obtaining demonstrative proof. He took care to make the carcases of the fatal cases disappear; or those, says he, who undertook the examination, employed much address in concealing from spectators the traces of the incisions. It appears that much of this doubt was occasioned by Albinus giving the profession to understand, that Raw came to the body of the bladder without touching its neck; but this Albinus seems to have done inadvertently, and by implication only; for, as we shall immediately see, Albinus guarded himself against saying what parts were *not* cut, while he admitted that Morand was right in doubting that the body of the organ was divided. In consequence of the description of Albinus, Morand repeatedly performed the operation, in the manner of Raw, on the dead body; and the result led both him and Albinus to the conclusion, that Raw always cut more or less of the neck of the bladder. * This conclusion, indeed, might have been formed from the description of the operation of Raw, and the knowledge of the parts; for, if we are to credit that description at all, it is manifest, that the knife, which was made to move along the groove of a sound already in the bladder, cutting, as Albinus says, whatever was in the way, must have divided the membranous part of the urethra and the neck of the bladder, ere it could reach the body of the organ.

‖ Traité Historique et Dogmatique, &c. Tome II. p. 119.

¶ Bernhardi Siegfried Albini Index supellectilis Anatomicæ, p. 15, &c. 1764, and Traité Historique et Dogmatique de l'Operation de la Taille, by Jos. Fr. L. Deschamps, Tome II. p. 89. Paris, 1796.

Baron Boyer, in the ninth volume of his Treatise on Surgical Diseases, recently published, is entirely of this opinion,—that the pretended method of Raw, which has made so much noise, and given birth to so many researches, differs not essentially from the method of Frere Jacques, as he practised it before his second journey into Holland. In short, it may be said to be an anatomical impossibility to cut the bladder after the manner of Raw, without dividing the membranous part of the urethra and neck of the bladder, or that part which is surrounded by the prostate gland. This, we conceive, furnishes the true answer to the question of Deschamps,—“ did he open the bladder above its neck ?” He could not have introduced his instruments into the body of the organ without the previous division of the neck. The question of opening the neck of the bladder without touching the membranous part, forms too nice a distinction for the practical facts of the case. To any one who knows the relation of the membranous to the prostatic portion of the urethra, it will appear impossible almost to push down a knife on an instrument already in the urethra, for the purpose of entering the bladder, without cutting some part of this membranous portion; and we contend, that where the bladder is to be opened from the perinæum, this must be the course of the incisions.

It is therefore remarkable, that Cheselden could be led to believe that Raw cut “ directly into the bladder, without wounding either the urethra or the prostates;" notwithstanding that "competent judges, who were witnesses to his operations, bore the same testimony;" and it is still more remarkable, how he could have attempted, with the grooved staff in the bladder, and following the same kind of incisions, to perform this operation without dividing those parts. Such operation, one would have thought, must have been anatomically impossible; and it is indeed difficult to see by what means it was effected.

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* Traité Historique et Dogmatique, Tome II. p. 92.

Wherein, then, it may be asked, consists the merit of Cheselden? Simply in the application of anatomical knowledge to the original operation of Frere Jacques,—in reducing to fixed anatomical principles, what was at first a bold and empirical, but fortunate chirurgical adventure. The lateral operation existed, to all intents and purposes, in the hands of Jacques,—liable, it is true, to sundry abuses; and it only required the knowledge of a skilful and dexterous dissector to give it all the success which it could have. This it received from Cheselden, who, by investigating and explaining its principles, divested it of its evils and uncertainties, and presented it to the surgical world in a state of comparative perfection. It is in this sense only that we can understand the language of this illustrious and candid surgeon, when he says, "I contrived the manner of cutting which is now called the lateral way." *

We should not have entered into this disquisition, had we not been convinced that the services of Cheselden are sufficiently great, without making him the absolute inventor of this operation, and that his merits are too substantial to require any exaggeration. The language of our author shows that some misconception prevails in the London schools on this subject; and it is due not less to the empirical Frere Jacques, than to the candid and skilful Cheselden, to place the matter in its true light. If, after our plain unvarnished statement, any doubt remains as to the true origin of the lateral operation, we request our readers to listen to the following words of the veracious Deschamps, who spared neither pains nor research to attain the truth, and who, while he speaks in the highest terms of the knowledge, candour, and public spirit of Cheselden, cannot refuse their true merit to Franco and Beaulieu, or even to the liberal Mery. "This comparison of the methods of Franco, of Frere Jacques, of Mery and of Cheselden, proves that they are not only the same, but further, that they are described in the same terms; and that the operation of Franco differs in the

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* The Anatomy of the Human Body, by William Cheselden, &c. p. 330. London, 1778.

mere expression, in so far as he does not say that he cuts towards the ischial tuberosity, and between the *erector* and *accelerator* muscles;—a dissection, however, which he elsewhere indicates clearly enough. It further results from these details, that if it be possible to entertain doubts on the lateralized operation of Franco, it is impossible to do so regarding that of Frere Jacques, published in 1702, twenty-four years before that of Cheselden. Frere Jacques is therefore *incontestably the first after Franco, who described unequivocally the lateral operation, and the first who performed it*; and to him belongs the honour of carrying into effect what Mery had only conceived." *

To proceed with the treatise of Mr Key,—the author shortly reviews the several modes in which Morand in France, and Douglas, Cheselden himself, John Bell, and Sharp describe the steps of the lateral operation; but pays no attention to the improvements real or imaginary, which this operation underwent in the hands of foreign lithotomists. It was certainly not necessary to write a history of the operation since the days of Cheselden; but as Mr Key makes it a point of duty, to quote some of the English authorities, we beg to suggest, whether it might not have been decent at least, to say something of the alleged advantages of the method of Moreau, who asserted he did not divide the transverse perinæal artery; of the method of Lecat and the merits of his urethrotome, and his beaked cystitome gorget; of the absurdity of the *lithotome caché* of Frere Jean de Saint-Come,—which Boyer unaccountably enough regards as the most ingenious of instruments; † and lastly, of the wounding of the internal pudic artery, which has happened more than once in the hands of good surgeons, and led to much inconvenience.

We must not however foget, that the main object of the present treatise is to explain the section of the prostate gland, and which we entirely agree with the author, in regarding it as the essential and important principle of the operation. The main point which it is practically important to determine, is in what direction should the prostate gland, and neck of the bladder be divided, and what is the most proper instrument for performing this section? According to Mr Key, "Cheselden's aim evidently was to divide the prostate gland, in *the depending part of the left lobe*, with a considerable inclination towards the rectum;" yet how does this tally with the subsequent inference? From the quotations adduced from the English authorities now mentioned, Mr Key infers, that "two points are clearly made out; first, that the edge of the knife was turned *upward*; and secondly, that the knife was in this position carried into the neck of the bladder behind the prostate gland." This mode of speaking is assuredly very confused: for it is impossible to conceive the neck of the bladder *behind* the prostate gland as our author represents, and the relation which it bears to this gland, is rather that of anterior, or more correctly of an oblique anterior-superior position; and if there is truth in the language of relative position, when applied to anatomy, it is a manifest contradiction in terms, to talk of the knife being carried *upward* into the neck of the bladder, *behind* the prostate gland, for the purpose of dividing this gland in the *depending part* of the left lobe." These inconsistencies require rectification and adjustment.

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* Traité Historique et Dogmatique de l'operation de la Taille. Tome II. p. 119 & 120.

† Traité des Maladies Chirurgicales, et des operations qui leur conviennent par M. le Baron Boyer, A Paris 1824, Tome IX. p. 393.

Our author is perfectly right in ascribing much inconvenience to the curvature of the staff in performing this operation; and justly reprobates the use of the gorget. If the staff is of the curvature usually given, the operator ought to remember how liable an instrument is to slip off exactly at the bend, or to be broken, and cause much inconvenience if not danger.

"In the use of the gorget, a more unpleasant feeling is experienced by the operator; namely, the danger of the beak slipping from the groove of the curved staff; a danger, not imaginary, but with reason insisted on ever since Hawkins's first introduction of the cutting-gorget, as well by its strenuous advocates as by its enemies. The operator has to attend to two sensations, the running of the beak along the staff's groove, and the resistance afforded by the prostate gland; while he is overcoming the latter he becomes unconscious of the former, and at the time he impales the prostate, loses all certainty of the beak being within the groove; this difficulty depends as much on the curve of the staff as of the nature of the cutting-gorget, and is one that every candid surgeon must acknowledge frequently to have experienced.

The first impediment a surgeon meets with, is the giving the first impetus to the gorget; by raising his hand, he is aware of the hazard he runs of the blade slipping between the gut and the prostate; by depressing it, he is in danger of thursting the beak at right angles against the staff, so that the gorget cannot run along the groove; and not unfrequently in the efforts of the surgeon to propel it onwards, the beak is nearly broken off the gorget's blade, and the staff is withdrawn with a bent back. These accidents I have witnessed; and by those who have seen much of gorget lithotomy, such occurrences will be recognised as by no means uncommon." pp. 13, 14.

In short, it has ever appeared to us singular, that any person pretending to perform surgical operations upon anatomical principles, should persist in the use of an instrument which has nothing to recommend it, but the gross clumsiness of the mechanical manœuvering with which it must be *wrought*. It is certainly the most barbarous and cruel contrivance that the greatest enemy of surgery could have devised; and if the following statement of the evils resulting from its use, will dissuade one lithotomist only from employing it, Mr Key will not have written in vain.

"First. The cutting edge of the gorget is conducted so high under the narrow angle of the pubic arch, as to incur a great risk of wounding the pudic artery; a frequent consequence of the introduction of the gorget in adults, being, as is well known to surgeons, a profuse gush of arterial blood; and, what is more material, not unfrequently great difficulty in restraining the hæmorrhage after the operation.

"Secondly. In the section of the prostate, the gorget is carried upward through the large plexus of veins which surround the upper surface of the gland, by which long continued venous hæmorrhage is produced, filling the opening into the bladder with coagula, and preventing the ready exit of urine, both by the wound and penis; thus producing the infiltrations of urine into the cellular membrane, which frequently cause so much irritation after lithotomy.

"Thirdly. The section of the prostate is made in a direction most unfavourable to the extraction of a calculus. Instead of the free incision made through the depending lobe of the gland by Cheselden, the gorget merely slices off the upper and narrowest part, leaving the body of the gland, which affords so much resistance to a stone, untouched. This slicing of the gland never affords room enough for a large calculus to pass, and, in the violent efforts to extract it, either the bladder is torn laterally, or, what is worse, the prostate is dragged towards the external wound, and its ligamento-cellular connexion with the arch and ramus of the pubes destroyed. When the operation is properly performed, that is, when the wound in the prostate is sufficient for the passage of the calculus, the connexion between the prostate and the arch of the pubes remains; and affords an opposing barrier, when the finger is attempted to be thrust upwards by the side of the bladder." pp. 17, 18.

These evils are almost peculiar to the gorget operation. The following though common to it with any bad or forcible mode of operating, is much more liable to take place after the use of that instrument than any other.

"Fourthly. To be fully aware of the mischief attending this laceration of the prostatic connexions, a knowledge of the cause of death after lithotomy is necessary. It is a prevailing opinion, that stone patients die of peritonitis, brought on by the injury done to the bladder during the operation; a mistake which, though not leading to any serious error in the after-treatment, is so far attended with mischief, inasmuch as it misleads the mind of the surgeon from the true source of the fatal event. I will not venture the assertion, that inflammation of the peritoneum is never a sequela of lithotomy, but that it is an extremely rare occurrence, and still more rarely the cause of death, examinations *post mortem* have fully convinced me, During the ten years I have been at our hospitals, I have never yet seen an unsuccessful case examined after the operation, in which inflammation of the peritoneum could be regardéd as the cause of death; and as invariably I have found that one circumstance was uniformly present, namely, suppurative inflammation of the reticular texture surrounding the bladder. Those who are unaccustomed to morbid examinations may be inclined to be sceptical on this point, and may think that an injury done to the prostate and neck of the bladder, by a cutting instrument, would be productive of more serious evil to the constitution, than a laceration of reticular texture. Some also may probably look on this explanation as a refinement of modern surgery, and one not borne out by facts; the fact, however, is indisputable; and analogy will bear us out in attributing the highest constitutional symptoms to active suppuration of cellular tissue. In injuries of the scalp, if the wound has penetrated the tendon of the occipito-frontalis, we expect extensive suppuration, not from the injury to the tendon, *quoad* tendon, but from the laceration or other injury done to the cellular membrane between the tendon and pericranium. In like manner wounds of fasciæ, whether of the hand, foot, or other parts of the extremities, are dangerous in their consequences, not from the injury done to the tendinous fibres, but from the exquisitely acute inflammatory action set up in the subjacent cellular tissue. This reticular membrane may be regarded as an infinite number of serous cavities, communicating with each other, and presenting an incalculable extent of surface. Inflammation spreading rapidly through these cells will quickly affect a surface much greater than that of the peritoneum, and I have witnessed symptoms as acute, pain as severe, and the peculiar depression attending peritonitis as marked in the reticular inflammation, as in the most acute and fatal case of inflammation of the abdominal cavity. The instances I have met with of the texture surrounding the bladder being affected with suppurative inflammation, and terminating fatally, whether arising from lithotomy or operations for fistulæ in perinæo, are sufficiently numerous to allow me thus to generalize on the subject, and afford a very useful lesson to those who endeavour to profit by examinations after death. In the inspection of those who die after lithotomy, it is not sufficient to look into the peritoneal cavity, to open the bladder, or to examine the state of the wound; the peritoneum lining the lower part of the abdominal muscles should be stripped off, and the source of evil will then be laid open. The finger will enter a quantity of brick-dust coloured pus in the cellular substance around the bladder, and if considerable force has been used in the extraction of the stone, will readily find its way towards the wound in the perineum; the barrier between the adipose structure of the perineum and the reticular texture of the pelvis being broken down, the suppurative inflammation spreads rapidly along the latter, and may be traced in some cases, between the peritoneum and abdominal muscles, as high as the umbilicus; in one case I have seen it extend to the diaphragm."

The cause of this destructive inflammation is found in the following passage.

"Lastly. Every surgeon who operates with the gorget is under the apprehension of it slipping between the bladder and rectum: if the beak slips from the groove before it has entered the bladder, it is supposed to have passed between the gut and the prostate. From the bearing of the gorget during its introduction, I always entertained some doubt as to this being the direction which the gorget takes under such circumstances. In the only instance in which I have had an opportunity of ascertaining the real course of the gorget in this accident, I found that the instrument, which was supposed to have passed between the bladder and rectum, had taken a very different course; it had slipped from the groove of the staff, had been propelled under the arch of the pubes, and had entered the reticular texture above, and to the left side of the bladder. I believe this to be the usual course of the gorget, when it slips out of the staff: to force it between the bladder and rectum, the beak must be thrust downwards, a direction which is never given to the instrument in passing it into the bladder."

To obviate these evils, Mr Key operates with a straight director, and a common straight scalpel, which he finds to be "entirely free from the objections of the curved staff and gorget, and to combine advantages which a curved instrument cannot possess."

"I was first led to try an instrument of this form on the dead subject, by the following accidental occurrence. Being called upon to examine a child who had died with stone in its bladder, I was desirous of performing the operation, before making any examination of the body; and having neither staff, gorget, nor stone-knife with me, I was obliged to operate with a common director, a scalpel, and dressing forceps; and I was forcibly struck with the facility with which the director conducted the knife into the bladder.

"The introduction of this instrument is not attended with any difficulty; it enters the bladder of the adult, or infant, with as much facility as one of the accustomed form. When held in the position for the first incision of the operation it might strike a surgeon, in the habit of using a common staff, that the point of the director was not in the bladder, an objection that, if correct, would justly condemn it as a dangerous instrument. To satisfy my own doubt on the subject when first I used it, I cut open the bladder, while an assistant held the director in the position delineated in plate 2; and in every subject on which I tried it, I found the extremity projecting some way into the base of the bladder. In plate 2 will be found a correct view of the bladder, with the instrument passed into it. At first I had the extremity made straight, but thinking that in depressing the handle it might be caught by a projecting fold in the bladder, which would considerably embarrass the operator, I had the point slightly curved upwards, and as the knife is never introduced so far into the bladder as to reach the curve, it will cause no difficulty in its introduction. The groove is made somewhat deeper than in the common staff, to prevent any risk of the knife slipping out. The extremity is not grooved, but rounded like a common sound, to prevent abrasion of the prostate or mucous lining of the bladder. The handle is somewhat larger, to afford a better purchase to the hand of the operator." pp. 23—25.

Now, in perusing this piece of information, the first reflection that occurs, is the singular methods which some men take to get the character of inventors and of original contrivance. Is it to be supposed that Mr Key is ignorant of the fact, that the practicability of introducing the very instrument which he delineates, and of which he claims the invention, has been well known to surgeons both in Paris and in London for several years? If he is, it is difficult to understand how he has been spending his time; for almost every one that takes any interest in the surgery of vesical and urethral diseases, knows well the experiments of Stanley in London, and of Amussat, Civiale, and Leroy in Paris.

That the true state of information on this point may not be as little known to our readers as Mr Key seems to make it, we request their attention to the following details from M. Troussel, on the practice of using the straight cathether, introduced by M. Amussat, upwards of three years ago at least.

" In March 1822," says M. Troussel, " I was summoned to a patient in the *Rue de Sevres*, No. 104, with an extensive urinous abscess. I attempted in vain to introduce a curved sound, which could not be made to pass the obstruction in the bulbous part of the urethra. M. Amussat being requested to see the patient, succeeded in introducing into the bladder a sound *perfectly straight*. During the whole course of the disease, we used *straight sounds*, which were always introduced with the greatest facility, notwithstanding the opposition of the patient, who having been formerly treated for urethral fistula at la Charité, was very reluctant to allow any instrument of a different form from those used in that hospital to be employed. From this period I have used *straight sounds* only; and I have invariably introduced them with the greatest facility. I sound in this manner with more confidence, and I have therefore renounced the use of curved instruments, whether made of metal or of elastic gum.

" Among the numerous advantages resulting from the straight sound, I adduce the following. 1st, It renders the operation of catheterism much easier and less dangerous; it enables all physicians and surgeons, however little accustomed to the operation to perform it readily, by merely remembering the direction of the urethra. It is almost impossible with a straight sound to make a false passage, without quitting the known direction of the canal, and thrusting it forward violently; while it is easy to pierce the urethra, and make a false passage in the motion of depression, or gliding when the point of a curved instrument is under the *symphysis pubis.* 2d. The operator may always know exactly the situation of the point of the instrument, from the direction of its body, or that part which has not yet entered the urethra. 3d. The operator may always in cases of stricture act with a straight sound, as he would with a flexible one; that is, he may cause it to revolve on its axis between his fingers, while he keeps it applied to the obstructing point, in the known direction of the canal, and by putting it on the stretch with the other hand. 4th. He may substitute for a silver catheter an elastic gum one, open at both ends, by using the first as a straight piercer. The apparatus, which is simple, consists of a straight catheter, broken an inch and a half below its open end, so as to unscrew the upper part of a catheter already introduced, and screw on the piercer (mandrin) in its place. It thus forms a long straight rod, upon which the flexible catheter may be slipped, by turning it between the fingers, and pushing it gently forward till it enters the bladder; when it is easy to withdraw the metallic sound to which the piercer continues firmly screwed."

"I insist," says M. Troussel, "on the denomination *straight sound*, because often this name is applied to sounds which are but slightly curved, or are similar to those suited to the female urethra."*

If he is aware of these experiments, it is impossible to reprobate too strongly the spirit in which this pretended invention is claimed.

Of the more than insinuation that Mr Key is the first to use a scalpel, or to recommend its use, it is scarcely requisite to speak. We can hardly imagine him to be serious in talking in this manner of an instrument which he cannot fail to know was virtually used by Cheselden, which he must well know Sir Astley Cooper has often employed, and which we know has been used more than once in this city. It matters not whether it be a scalpel with button or without button, with long blade or short blade, strong back or slender; it still is, to all intents and purposes, the ordinary straight scalpel used in all surgical operations. This method of explaining the principles, and improving the performance of surgical operations, betrays either remarkable ignorance of the history of the art, or a spirit in which candour has no share.

We have now remarked the principal points worthy of attention in this Treatise on Lithotomy. We cannot discover any thing peculiar in the author's description of the mode in which he operates, or any circumstance which is not already well known to those who have studied the operation. However much we agree with the author in his opinion on the principle of the operation, we cannot perceive that he has been fortunate in his manner of unfolding it. In truth, there is not a single attempt, through the whole of its splendid pages, to demonstrate these principles on anatomical facts; and perusal of the work sadly contradicts the professions held out in the title-page and preface. Even the engravings do not give views which we should term natural of the parts concerned in the operation; and we should much prefer the short but clear observations of Dr Colles, as a guide in dissecting them and studying the operation, than the desultory but assuming instructions of the author before us.

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* Archives Générales de Médecine, 1re année, Tome iii, A Paris, 1823, p. 398.

This book is introduced before the world with a degree of pomp and magnificence which the nature of its contents does not render particularly becoming. It consists of thirty four quarto pages, printed in close imitation of the work of Sir Astley Cooper on Dislocations and Fractures, in a large beautiful character, with plenteous space and ample margin. The contrast between all this pomp and circumstance of authorship, and the homely nature of the contents, is so striking, that it involuntarily suggests the shrewd remark of Bassanio. "Gratiano speaks an infinite deal of nothing, more than any man in Venice; his reasons are as two grains of wheat hid in two bushels of chaff; you shall seek all day ere you find them; and when you have them, they are not worth the search."

IV.

Observations on Extraction of Diseased Ovaria; illustrated by Plates Coloured after Nature. By John Lizars, Surgeon, Author of the System of Anatomical Plates, &c. Edinburgh, Folio. Lizars. 1825.

The surgery of the present age is characterized by its boldness. Operations which were not even dreamt of as practicable by our predecessors, are now daily performed, and what is of greater importance, successfully performed. The surgeons of the New World vie with those of the Old, and country practitioners do not yield in science or dexterity to those of the metropolis.

The subject of the present communication is already known to our readers, by the interesting communication inserted in our LXXXI. Number, page 217, in which Mr Lizars gave a detailed account of his first operation for the removal of diseased ovaries by gastrotomy; and although from a singular circumstance to which we shall presently allude, the object of the operation was not attained, its practicability in proper cases was demonstrated, and the safety of laying open the abdominal cavity, and handling the viscera with freedom, made manifest, contrary to the doctrines of the schools.

We confess that we were among those who strongly dissuaded both the patient from submitting to, and the operator from undertaking the operation; and we can bear testimony to her fixed determination, that if no regular and scientific surgeon would venture upon it, she would have recourse to a country bonesettter, "who," she said, "would make nae mains o't," (not hesitate about it). Our reasons for discouraging the operation were not only the danger of inducing peritoneal inflammation, but the possibility, or rather the probability, that after the cavity of the abdomen was laid open, it would be found impracticable to complete the operation, in consequence of adhesions, enlargement of vessels and unexpected occurrences; for we were fully aware of the difficulty of determining, by any external examination however skilful, the exact state of the internal parts. We confess, indeed, that we did not foresee the possibility of so great an error in diagnosis, as that into which we ourselves and many surgeons of great experience fell, of supposing a diseased ovary to be the cause of a protruded abdomen, when in reality both ovaries were sound. Yet so it was; and it furnishes an additional reason against the undertaking of this operation, except under the most particular circumstances. Luckily, however, the patient is still alive, and does not repent of her urgency to have the operation performed, as it has satisfied her that every thing possible has been tried to relieve her from the inconvenience of a prominent belly.

Mr Lizars, however, has not been deterred by the want of success in his first attempt, from persevering in his endeavours to accomplish so great an object, as to remove a disease, rendering the remainder of life a burthen, and invariably terminating in a lingering death; and in the splendid publication before us, he gives an account of four cases, including that already published; in the second of which the operation was partially successful, in the third it proved fatal, and in the last, recovery has taken place, although it was found to be impracticable to remove the tumour.

As the first step towards overcoming the difficulties which embarrass an operator in his practice, is to be fully aware of their existence, and of the various forms and complications which they present, we shall extract the detail of those which occurred to Mr Lizars, reserving the successful case to the last.

Case III.—J. C., a cookmaid, 25 years of age. Disease of one year standing, and health of late very bad.

" On Tuesday the 22d March 1825, between one and two o'clock, the room having been previously heated to 75° of Fahrenheit, I commenced the operation, by making an incision through the skin and adipose substance, from the sternum to the symphysis pubis ; then through the muscles and peritoneum, near the sternum, so as get at once into the abdominal cavity ; but the tumour approached so near the sternum, that I could not accomplish this, so that I cut through the tendons of the external oblique, internal oblique, and rectus muscles, imagining I had got to the surface of the tumour, and was proceeding to separate the parietes from the tumour, when I observed my mistake. I accordingly deepened the incision through the posterior tendinous layer of the internal oblique and transversalis muscles, and arrived at the sac of the tumour ; I then began to insulate the tumour, which was found adhering so strongly to the parietes of the abdomen, to the colon, and to the brim of the pelvis, that I despaired of being able to detach it ; however, by dissecting at one time, and tearing cautiously with the fingers at another, I succeeded in insulating a large mass of a dark-brown colour, weighing upwards of seven pounds, and, to my delight, having a pedicle only the thickness of the little finger, and between one and two inches in length. I now gave this enormous mass to my assistant, Mr Macrae, passed a ligature round the pedicle, and tied it firmly, and then cut close to the tumour ; securing three open-mouthed vessels of the pedicle. During this period, which occupied, I understand, about ten minutes, my friend, Dr Poole, kept the omentum and intestines enveloped in a towel dipt in water at 96°. I now stitched up the wound, carefully avoiding the intestines and omentum, applied straps of adhesive plaster, compresses of lint and linen, and around the body a shawl like a binder after accouchement ; and, lastly, carried my patient to bed."

This patient died on Thursday 24th, at 7 *p. m.* of peritonitis, having survived the operation about 56 hours.

Case IV.—M. B. age 34, cookmaid, disease of six years standing. Operation performed on the 24th April 1825.

" The day was remarkably cold for the season, for although a large fire had been put on by seven in the morning, the thermometer had arisen only to 66° by one o'clock. When the heat of the room had arisen to 70° of Fahrenheit, which was between one and two o'clock, a longitudinal incision was made through the integuments, from the sternum to the pubes : at the sternal extremity the peritoneum was wounded, and one finger of the left hand was here introduced, then another, and the peritoneum laid open to the pubes : the same was then done upwards to the sternum, when a multiplicity of convoluted vessels presented themselves of various magnitude, from the thickness of a finger to that of a crow's quill. At first I thought them the intestines, for they appeared extremely fleshy; then I imagined them the blood-vessels of a placenta, which they still more resembled; indeed such was their resemblance to the vessels of that organ, that the same idea struck one and all of the gentlemen present. On minute examination, however, they were found to be the blood-vessels of the omentum majus, enormously enlarged, running on the surface, and into the substance of the tumour, which appeared an enlarged ovarium. Finding that it was impracticable either to dissect these vessels from the surface of the tumour, or to secure them, in consequence of their great number, I abandoned the idea of extirpating the mass, in which decision I was supported by the gentlemen present; I therefore punctured with a large trocar and canula the centre of the tumour, but nothing flowed; I next made a small but deep incision with a scalpel, when the tumour appeared solid and cartilaginous, and a vessel bled a little: I lastly punctured the lower part of the tumour, being anxious to reduce its bulk, but only pure blood flowed. The lips of the wound were now approximated and stitched; adhesive straps applied, compresses of lint and linen, with a shawl as a binder, and the patient carried to bed."

The reports are continued to May 7th, when the patient was convalescent, and, we understand, she continues to recover.

Case II. is that in which the operation was partially successful; we say partially, because although the one ovary was removed without any bad consequences to the patient from the operation, yet most unfortunately the other was diseased under such circumstances as to render its removal at the same time unadvisable. The patient was 36 years of age, and the case of six years standing.

"The day before the operation, she had a smart dose of the compound powder of jalap, which operated briskly. This day, Sunday, the 27th of February 1825, at 1 o'clock *p. m.* I began the operation, the patient being placed on her back, on a table covered with blankets, and the temperature of the room heated to 75° of Fahrenheit. The external incision having extended through the skin and adipose substance, from the ensiform cartilage to the symphysis pubis, a little on the left of the linea alba, I cautiously cut through the muscles and the peritoneum, near the umbilicus, making a small aperture into the latter, when the serous fluid flowed freely out, which was also collected by means of saucers and sponges: as the fluid ceased to flow, the wound was enlarged downwards. The whole measured about a gallon and a half. The wound was then enlarged upwards to the sternum, making that in the peritoneum correspond with the wound in the integuments; when the tumour appeared occupying the greater portion of the abdomen, and resembled the uterus in the eighth or ninth month of gestation, as represented in

Plate I. I now laid hold of the tumour, brought it beyond the parietes of the abdomen, and gave it into the hands of my assistant, Mr Macrae, as its weight threatened to drag the uterus ; I then passed my fingers around the pedicle, which appeared the broad ligament of the uterus, soft, flaccid, and healthy, and about an inch and a half in length; the fundus uteri being elevated about an inch above, or atlantad to, the crista pubis. A ligature, composed of two strong threads waxed, was next passed round this pedicle, and tied intermediate between the fundus uteri and the tumour, transfixing the pedicle between the noose of the ligature and the tumour, to prevent the noose slipping off. Lastly, I cut across the pedicle close to the tumour. During the progress of the operation, she complained of pain in the lumbar and sacral regions, which appeared to arise from the dragging of the tumour—a circumstance scarcely possible to be avoided, with all our care. My next object was to ascertain the condition of the uterus, as I was prepared to remove it had it been diseased; the uterus, however, was perfectly soft, and only a little enlarged. The other ovary was increased to nearly the size of the fourth part of the one removed, and was adhering on the right side to the parietes of the pelvis, and to the uterus, but comparatively free on the left side. While examining this, the gentlemen around me begged me to desist, in which I concurred, conceiving, that as the uterus was elevated above the brim of the pelvis, and the ovary not tied down by adhesions to the bottom of the pelvis, there might be hopes of its rising after the other had been detached, and that it might be extirpated afterwards. I now proceeded to bring the edges of the wound in apposition, by the employment of ligatures and adhesive straps ; of the former there were seven, and of the latter nine, the wound itself being twelve inches. I regret that I employed so few ligatures, for in wounds of the abdomen they are particularly useful, to prevent any protrusion of the viscera, and to give support in all the motions of the abdomen during the cure. When the ligatures and adhesive straps had been applied, and the ligature encircling the pedicle carefully left out, compresses of lint and linen were put on, and the abdomen encircled with a shawl, as a binder employed after accouchement. This I found in the former case much more serviceable than a nine or twenty-tailed bandage, or stays, or any other fashionable dress."

The only untoward circumstance which occurred was some hæmorrhagy in the evening, but it was checked by judicious treatment, and the case proceeded favourably. The last report is on the 9th of May, when the patient is convalescent.

In drawing a general result from the event in Mr Lizars's cases, we must remember that the ovarian dropsy, if left to itself, is a mortal disease, of very slow progress, rendering the life of the sufferer for a great length of time miserable, both from actual distress and from dreadful anticipations, and that therefore any thing which presents even a chance of relief, is preferable to abandoning the individual to despair. Keeping this consideration in view, the result is rather favourable. Of four cases, one may be said to have proved successful, one died, and in two the operation was useless. We find from the records of surgery, that in general capital operations, on their first introduction, have been much less successful, even in the hands of the great and skilful surgeons, by whom they have been conceived and performed, * than they have afterwards become in the hands of the profession generally; and it would not be difficult to give the explanation.

But if we consider the operation of gastrotomy, independently of the single object of removing diseased ovaria, the result of Mr Lizars's operations is more favourable; for we here find, that of four cases, three succeeded, although in all the abdomen was freely laid open, and the viscera very freely examined; a success so great as to encourage us to believe that gastrotomy may be resorted to in many other cases of abdominal disease, as volvulus, intussusceptio, † internal hernia, even external strangulated hernia—intestinal calculus, ‡ and in very obscure diseases of the abdominal and pelvic viscera, when no other hope presents itself.

We have now only to speak of the plates with which Mr Lizars's work is adorned; we say adorned, for they reflect the highest credit on Mr Lizars's brother, by whom they were designed, engraved and tinted. They are five in number, and all belong to the second or successful case. The first represents a view of the abdomen when fully laid open, exposing the tumour, intestines, and uterus, in their relative situations. The second is a lateral view of the tumour in its natural size; the third is a view of the basis of the tumour, showing the pedicle by which it was attached, and the Fallopian tube connected with it; the fourth is a section of the tumour, displaying its texture and structure; and the fifth and last is a view of the abdomen after the wound had healed, showing the cicatrix of the incision, and of the stitches, and the ligature still hanging out.

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* See observations in page 127, vol. 1, of Mr Harrison's Surgical Anatomy of the Arteries, a work replete with information and devoid of pretension, and which ought to be in the hands of every student engaged in dissection.

† See Dr Fuchsius's case in the Medical Intelligence of this Number.

‡ See Mr Torbet's case, page 89 of the present Number.

V.

1. *Report on the Epidemic Cholera, as it has appeared in the Territories subject to the Presidency of Fort St George.* Drawn up by order of the Government, under the Superintendence of the Medical Board, by William Scott, Surgeon and Secretary to the Board. Madras: Printed at the Asylum Press. 1824. Folio, pp. 292. With Appendix, &c.
2. *Obervations on the Cholera Morbus of India: a Letter addressed to the Honourable the Court of Directors of the East India Company.* By Whitelaw Ainslie, M.D. M.R.A.S., late of the Medical Staff of Southern India. London, 1825. pp. 90.
3. *On Cholera, more especially as it has occurred during late years in British India, a Letter addressed to Sir James M'Gregor, M.D., Director General of the Medical Department of the Army, &c. &c.* By Thomas Brown, Surgeon Musselburgh. 8vo. Edinburgh, 1824.

Cholera has prevailed epidemically, it is well known, in various countries of Asia, successively, and with various degrees of severity, since the year 1817; and at the present time, when it is reported to have shown itself on the confines, and, in some instances, in the eastern territories of Europe, its ravages have scarcely ceased in the countries where it originally appeared. The origin and progress of a distemper so rapid, so generally fatal, and so comprehensive in its aggressions, naturally attracted the attention of our Oriental Colonial Government, in consequence of its early appearance in our possessions in Indostan; and at their request, the Medical Boards of the different presidencies have presented reports of the history of the disease, in the parts of India under their respective care. From those of the Medical Boards of Bengal and Bombay, already published, it appears that cholera prevailed, between the months of May and September 1817, in the districts of Momensing, Behar, Nuddea, Jessore, Calcutta, Rajshahy, and that it shortly after reached Balasore and Cûttack; that in November it affected Mirzapore, Rewa, Sheergur, and other northern parts of Bundelcund; that before the end of May 1818, Jubbulpore, Saugor, Ougein, and Nagpoor, were under its influence; and that early in July it reached Jaulnah, Aurungabad, and Ahmednuggur, extending, in the course of that month, to Seroor and Poonah, and to the presidency of Bombay about the middle of August:—thus traversing, in a single year, the whole of Bengal and Cuttack, to the western extremity of Gundwana, and in three months more, or about fifteen months from its first appearance, completely crossing the neck of the peninsula, to the shores of the Arabian Gulf.

In the course of 1818, this singular malady appears to have taken another route, and following a southern course, to have traversed successively the districts, towns, military stations and encampments of the Indian Peninsula;—sometimes appearing, capriciously enough, where it was not apprehended or anticipated; in other instances, following a path the direction of which could be traced with considerable accuracy. The volume before us contains, first, the Report on the epidemic as it appeared in the territories subject to the presidency of Fort St George; secondly, the narrative of its progress in the Indian Peninsula, compiled from official records; thirdly, extracts from original reports of the medical officers attached to the presidency; fourthly, a series of cases of the disease, with observations, extracted from the records of the Medical Board; and lastly, an appendix containing the sick returns of the army of Fort St George, from the year 1815 to 1821 inclusive, digested in fifteen tables, six tables exhibiting the daily progress of cholera, and tables of the movements of the troops, and the conditions of the atmosphere during the same period. It is chiefly to the report, and to the narrative of the course of the disease through the Peninsula, that our present attention is to be directed. The first of these, which is drawn up by Mr William Scot, secretary to the Medical Board, contains a clear and instructive history of the disease, notices of the periods at which it has appeared, either by authors or by the records of the government; an account of its symptoms and their varieties, means of diagnosis, appearances on dissection, an examination of opinions on the causes, real or alleged, by the operations of which it seems to be produced; a discussion on its proximate cause or pathological essence; and lastly, a detail of the curative means employed, and of the apparent operation of medicines in the disorder. In the second paper we are presented with a minute and interesting history of the route which the distemper was observed to follow, from its first appearance in the district of Ganjam in the northern Circars, till it terminated near Cape Comorin in the south, and at Poonah and Bombay in the west. For sundry reasons which are satisfactory to us, and we trust will anon be obvious to our readers, we make the last first, and the first last.

We have already briefly glanced at the situations attacked by cholera, and the course of the disease between May 1817 and August 1818. It was in March (20th) 1818, that this disease was first announced to be prevailing in Ganjam, a town close on the coast, in a district at the northern extremity of what is termed the Circars,—a long narrow tract lying between the Orissa mountains and the Gulf of Bengal. It was then pretty frequent at Aska, from the 23d April to the 16th of May, when it suddenly disappeared, but again manifested itself in the beginning of July, continuing more or less till November, after which few cases were observed in the Ganjam district. Regarding its course at Chicacole, the next town in this line of coast, no authentic information was obtained; but it is known that this place was not exempt from its influence. At Vizianagram no distinct case occurred till the 20th May; but after the 26th, and onward to the 5th July, the disease prevailed generally, and with some severity. At Vizagapatam it appeared about the 15th May; attacked few Europeans after June; but it continued to be general, though in different degrees of severity, in this town and the neighbouring country, until February 1820. It declined in December 1818, but recurred in March 1819; most numerously in May, but most fatal in April and November. At Rajahmundry, an inland town, it appeared about the 10th July, began to decline about the beginning of August, disappeared early in November, returned on the 25th January 1819, during the prevalence of a cold wind from the south-east, and continued until the end of April. At Ellore, somewhat to the south-west of Rajahmundry, it commenced about the 5th July, at once, on the first regiment of native cavalry, stationed there, and on the native inhabitants, who are chiefly Hindoos, but proving most fatal among the Moslem families. At Masulipatam on the coast, the first cases appeared about the 10th July, among the convicts confined in the fort, in a low, damp, ill ventilated and very crowded apartment; and about the 20th it was observed in the town and neighbourhood, where it was very general during August, declined rapidly in September, and disappeared early in October, while the weather was chill and the rains heaviest. It appeared again here in a milder form about the 15th June the following year (1819), but continued a much shorter time than during 1818.

In several villages situate along the southern bank of the Kistnah, from the eastern extremity of the Zillah of Guntoor to the western extremity of the district of Palnaud, it appears to have manifested itself almost simultaneously about the end of July, to have proceeded gradually southwards, and to have finally quitted the neighbourhood about the middle of November 1818.

Commencing about the beginning of the westerly rains, and continuing until the termination of the rainy season, it is reported to have been most fatal during the prevalence of bleak westerly winds, and in villages situate in the vicinity of tanks. The *Banians*, or merchants of the town of Guntoor, a little to the south of the Kistnah, whose dwellings occupy a wide dry street, almost entirely escaped the disease, while the *Brahmins*, who inhabit a close, damp alley, suffered in as great a proportion as any other class of people.

The Zillah of Nellore extends about 180 miles from north to south, and varies between 40 and 60 miles from east to west,—a tract of country lying between the Payen-Gaut or Carnatic division of these mountains, on the west, the sea of Coromandel on the east, and the river Pennar on the south. Cholera appeared in the most northerly villages of this district about the 2d of August, manifested itself at Ongole on the 14th, at the town of Nellore, from which the Zillah is named, on the 20th September, and before the 5th of October it had reached its southern extremity. In twelve days it travelled 32 miles, in the next twenty-seven days 80 more, and in two months from the date of its commencement, it traversed the whole Zillah, except its two south-west divisions, which entirely escaped this visitation. These parts which are the most elevated of the Zillah, are populous and much frequented by merchants; and the disease was observed to be either less fatal or less common, in its whole western frontier contiguous to the hills. It continued during the rainy season; and disappearing in the order in which it had advanced, it entirely quitted the Zillah before the 15th of January 1819. Again, however, it became general in the northern parts of the Zillah about the middle of April 1819, and, proceeding southward, at nearly the same rate as formerly, it reached Ongole on the 16th of May, and Nellore on the 3d of July. From the neighbourhood of the former town it disappeared before the end of August, and from that of the latter about the end of September; and indeed the period of its continuance, in any town or tract of these districts, rarely exceeded three months.

At Madras, it appeared from the accounts of natives, that some cases had occurred on the 5th of October; but the first case seen by a medical officer occurred on the 8th; after which it prevailed pretty generally in Madras and the adjacent villages, until the 24th, when it received a temporary check from a violent storm. Very soon, however, it again increased, and prevailed with considerable, but varying violence, until the beginning of November, when it first declined slowly, and some times afterwards became mild, and of rare occurrence. In April 1819, the troops at the presidency were entirely healthy; but the disease re-appeared early in May; and though it did not afterwards become general, it has shown itself occasionally since that period. Its attacks were most frequent during the hot months of 1819 and 1820; in 1821 they were more rare. At Poonamallee, in the interior of the district, it appeared on the 13th October, but disappeared about the middle of the following month; between the 8th and 21st July 1819, however, many cases again occurred at this place. At St Thomas's Mount, near Madras, it appeared on the same day, 13th October, on which it appeared at Poonamallee, and though not violent or general, it continued long. Abating in December, it decreased till May 1819, when it became more frequent; and during the three subsequent months, was more prevalent than at any preceding period of its course. It declined in September, and early in 1820 was very rare. At Wallajahbad it appeared first about the middle of October, and continued to prevail, with different degrees of violence, in the 86th regiment, and among the native inhabitants, during November and December. Several cases occurred also about the end of April, and a few in the beginning of May 1819; it was frequent towards the end of June, especially in the Royal Scots; declined about the 8th July, and soon after disappeared.

It continued to proceed along the coast; but we have no accounts of its appearance or decline at Sadras or Pondicherry. At Cuddalore it first appeared about the 14th November, after the commencement of the heavy rains, and prevailed, with considerable violence, till the end of December, when it rapidly declined, and at length disappeared. At Combaconum it appeared about the 20th November, declined about the middle of December, and soon terminated. It recurred, however, for two or three days, in the middle of January. At Nagore it began about the 10th November, principally among those natives whose occupations exposed them to the weather, which was damp and rainy. Negapatam, though distant from Nagore only four miles, continued healthy till the 22d of November; at both places it was much abated before the 20th of the following month; but recurred as at Combaconum, in both places, for several days in the middle of January, again about the end of July 1819, abating only after the middle of August; and once more, between the end of October and the middle of November, at Nagore; and between the 1st and 13th of February 1820, at Negapatam.

It reached Tanjore and its neighbourhood about the 20th of November, soon became very frequent, continued to increase irregularly during December till the middle of January, after which it abated slowly and irregularly, disappearing only in April 1820. Continuing its progress southward, it appeared at Madura about the end of November, and was soon diffused over the adjacent districts of Dindigul in the interior, and Ramnad on the coast, in both of which its course was so irregular and protracted, that it ceased to be general only in March or April 1821. At several places it declined greatly, and returned without evident cause; and it was general and destructive over the whole Madura district in June 1819. At Palamcottah it commenced in the beginning of January 1819, declined considerably before the end of the month, and disappeared from the inhabitants, and the troops previously stationed there early in February; but the 1st battalion 15th regiment, which had returned from Ceylon, continued to suffer from it till near the end of the month. No cases were observed at Palamcottah, until the beginning of September, when many took place, and continued to occur in December, in January, and the latter part of April 1820. During this month also, it was frequent in the town of Tinnevelly. This forms an account of the progress and advancement of Cholera along the eastern or Coromandel coast of the Peninsula, during the years 1818 and 1819, from Ganjam and Aska in the north, to Palamcottah and Tinnevelly not far from Cape Comorin in the southern extremity of the Peninsula. We now proceed to trace its course in the same direction through the interior of the country.

The first spot in the northern and central region of the Peninsula, at which it is represented to have appeared, is Nagpoor and the neighbouring villages, where it was observed about the middle of May 1818, when it was general and fatal among the inhabitants; but no case appeared among the troops until the 26th or 27th of May, when three or four men of the depot corps were attacked and died. On the 30th May, a large detachment of Bengal and Madras troops arrived at Nagpoor from the siege of Chandah, took possession of certain huts near the Sittabuldee hills, which they had formerly occupied. Though previously in good health, they had scarcely taken possession of their quarters, when it appeared in a violent manner among the Bengal troops and their followers. Of the Madras troops only one individual was this day affected; but on the 31st it appeared with great violence and fatality, on the 1st of June the attacks were very numerous, but the deaths proportionally fewer; on the 2d it declined, and after the 10th rarely occurred. In a detachment of the force recently employed at Chandah, which was left at Hingumghat fifty miles south of Nagpoor, it appeared at the same time, and followed the same course as it did in the main body of troops at the latter place.

At Jaulnah, cases were first observed on the 3d July among the families of the native soldiery in the village; on the following day it attacked the troops both European and native, continuing frequent and violent till the 11th July, when attacks were milder and less numerous; and before the end of the month the disease had almost disappeared. The following facts are recorded as worthy of attention. A detachment which left Nagpoor while the disease was prevailing there, and of which some were attacked on the march, arrived at Jaulnah about the end of June. The disease appeared on the 3d of July. The Russel brigade arrived in health at Jaulnah on the 4th, and left it for Hydrabad on the 5th; a few days afterwards, the distemper appeared and produced great mortality among them. A party of gentlemen with about 1000 followers arrived at Jaulnah on the 4th, and left it in good health on the 6th; before they arrived at Aurungabad, many of their followers were attacked, and the disease began to prevail at the place soon after their arrival, and was most general in the vicinity of the spot where the first case occurred.

At this period there are two instances of the disease proceeding in a northern direction to Nusseerabad and Mulligaum, in the province of Khandlish. At the former place, which is about 80 miles N.N.W. from Jaulnah in a straight line, cholera appeared on the 4th of July in Lieutenant Colonel Heath's detachment, encamped in the neighbourhood on the south side of the Tapty River, and among the inhabitants of the contiguous country; at the latter it appeared on the 13th among the camp-followers of Lieutenant Colonel Macdowall's camp, and on the 16th in a Madras European regiment in numerous and violent attacks, until the 23d, when they diminished, recurring however during August. In Sir John Malcolm's camp at Mhow near Indore, north of the Nerbudda river, about 120 miles N. by W. from Nusseerabad, cholera is incidentally noticed as having attacked part of the force on the 16th of July; but it appears from the Bengal Report, to have first occurred there in the course of the month of May, its progress being from east to west. The compiler of the Report is inclined to conclude, that the attack at Mhow, on the 16th of July, was unconnected with the appearance of the disease at places southward of the river Tapty.

In its southward progress, the disease appears to have taken two several routes,—one almost due south, by Punderpoor, Badamy, Hoobly, Bellary, Hurryghur, Chittledroog, Bangalore, and Seringapatam, into the Mysore,—the other, first south-east, to Hydrabad; then south, to Gooty; south-east again to Cuddapah, Tripetty, Chittoor, Vellore, and Arcot, in the interior parts of the Presidency of Madras; afterwards south-west into the Barrahmaul and Salem districts, when it began to coincide at Trichinopoly and Tanjore, with the course of the epidemic of the Eastern or Coromandel coast.

At Punderpoor, the first of the sickly stations on the southern route, it appeared on the 14th of July, while the place was crowded with strangers, assembled for the celebration of a great festival; and after producing great mortality, and extending itself to the troops in the vicinity, it declined about the 24th of the month. On the 13th of August it appeared at Badamy, on one of the tributary streams of the Kistnah, at Darwar near the mountains, and at Hoobly in the Dooab, where the first case occurred in the neighbouring encampment, and in which it was for some days afterwards partial, and confined to the camp followers. It was most frequent and severe from the 18th of August to the 1st of September, but had declined much at the end of the month. This force again experienced a severe attack about the middle of April 1819, when encamped in the neighbourhood of Guddick, somewhat to the east of Hoobly. At Bellany it appeared on the 8th September 1818, but was partial, and confined to the native inhabitants, until the 17th, when its attacks were frequent among the troops, European and native, till the end of the month. It then declined, and was not observed among the European troops after the 5th of October. About the 20th it again attacked, with its former violence, the troops and inhabitants, especially the lower fort, where it was most prevalent, and did not disappear till the end of November. Of five hundred prisoners in the jail of Bellary, which is about twelve hundred yards east of the fort, and is surrounded with a high wall, only one was attacked, and he recovered. His Majesty's 34th regiment commenced its march, in a state of health, from Bellary to Bangalore, on the 17th of September; on the 18th one man was attacked; on the 19th and 20th no case occurred; on the 21st twenty-eight men were attacked; on the 22d twenty-four, and twelve on the 23d, after which it declined rapidly, and cases were unknown after the 29th. Of about seven hundred men, ninety-one were attacked, and thirty-seven died. The disease did not exist in any of the villages on the route when the corps passed; but soon after it appeared in all of them. Bellary suffered another attack of the disease about the beginning of May 1819. At Hurryghur the disorder appeared on the 12th September, and continued to prevail in that and the neighbouring villages till the end of the month. At Chittledroog the first case was observed about the middle of the month; but only a few slight cases occurred till the end of October, between which date and the 15th of November, cases were numerous, and frequently fatal.

The direction of the distemper was at this time south-east, toward Bangalore, where a few cases appeared about the end of October and during November, but without at any time becoming general. In the 69th regiment, which had marched from Bangalore on Cannanore on the 12th of October, two men of a native detachment accompanying the regiment were attacked on the 20th, while encamped in the vicinity of the Madoor river; but no European suffered till the 24th, when the disease appeared, and was pretty frequent between the 28th and the 13th of November. At Seringapatam it appeared about the 6th of November 1818, and was general for a month. It followed nearly the same course at the town of Mysore, and in the intermediate and adjacent country, where the mortality appears, from common reports, to have been greater than in any other part of the country. At Manantoddy in Wynaad, about thirty cases occurred between the 16th and the 22d of October 1818. In the district of Coimbatoor it commenced about the end of November, and soon became general and destructive in villages adjacent to the Cavery River, especially Errode and Carroor. It reached Coimbatoor on the 30th November, but appears not to have been very severe. It declined in December, and by the end of January 1819, it had almost disappeared. Cases, however, occurred occasionally till October following, when the disorder again became frequent; but abating in November, it disappeared in February 1820. It is remarked that endemic fever existed at Coimbatoor during the prevalence of the epidemic cholera; and that as the latter subsided, the former became general throughout the district. This is the description of the first mentioned route of cholera, which it will be found, by inspecting the map, was, with few exceptions, due south, from Nusserabad, Aurungabad and Jaulnah, in the district of Aurungabad, to Seringaptam in the Mysore, and the district of Coimbatoor in the south.

In the south-eastward route, the first place at which its appearance is remarked is Shawghur on the Godavery river, where it attacked the Mysore horse on the 8th of July, when on march for Hydrabad, and continued to affect the corps till near the end of the month. The next post is Hydrabad, at which it appeared about this time, but neither so general nor so violent as at most other stations. The cantonment enjoyed an immunity for many days after the disease had become general at the Residency; and the first cases were soldiers who had returned from duty at the Residency. It prevailed also at the market place *(Begum Bazar)* before it appeared in the city of Hydrabad, although these places are separated by a small river only; and though many cases occurred in the cantonment at different periods subsequent to this attack, it never afterwards became general. Proceeding straight southward, it appeared at Gooty, on the north bank of the Pennar river on the 6th of October; and occasional cases continued to occur till the beginning of February 1819, but the disease could not be said to be general. In February 1820, however, the second battalion 16th native infantry stationed here, as well as the inhabitants, experienced a very fatal attack, * commencing on the 2d of the month immediately after the departure of the first battalion, in which it had proved very destructive during the march from Hydrabad, and in which it prevailed during a halt of three days at this town. This attack declined on the 21st, and was rare after the end of the month; but early in March the disease appeared among the inhabitants of the neighbouring villages. Proceeding then to the south-east, it appeared at Cuddapah on the Pennar river on the 9th, without becoming general; at Tripetty on the 1st during a festival, with great mortality; and at Chittoor much about the same time, extending itself generally in the district. Farther south it appeared at Vellore on the 3d, and at Arcot on the 13th, increasing in frequency about the termination of the month, and gradually terminating in the latter place in November, in the former in December. About the beginning of May 1819, it reappeared at Arcot, at Vellore, and at Chittoor, but without becoming very prevalent, terminated about the beginning of July.

It may be remarked, that the epidemic, according to this view of its course, was near the interior parts of the Presidency, and that the line on which it was moving was beginning to coincide not only with that of the sea-coast or eastern tract, but with that which we were lately surveying through the central part of the Peninsula. When the disease began to show itself, therefore, in the contiguous districts of Barahmaul and Salem, it might appear doubtful whether it was to be viewed as the nearest central line or the most remote; for, topographically speaking, it might be viewed as equally ready for either. The Reporter is inclined to represent it as entering these districts from the north-west about the middle of November, along the course of the Cavery river, in the villages on the banks of which it had carried off many of the inhabitants. It prevailed at Sankerrydroog, from the 19th to the end of November, and at Salem, from the 22d of November to the 14th of December. The inhabitants of the hills in the neighbourhood of the latter town, prohibited all communication with those of the valley, and it is said they were exempt from any attack. The disease reappeared at both towns about the end of August 1819, after a long continuance of rainy weather.

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* Of one hundred and one cases among the men of the corps admitted into hospital during February, seventy-five terminated fatally.

The last place to be noticed in this series of affected spots is Trichinopoly, where it appeared about the end of October, in one of a company of native soldiers which had entered that place from the northward. Two men had previously died on the march of attacks of the disease, and this man who also died was attacked before his arrival. On the 1st of November, another fatal case occurred at the village of Pootoor; about the 5th several persons were attacked in the neighbouring villages of Warriore and Pootoor, some of whom died before assistance could be procured; and at the same time a few fatal cases occurred on the outside of the north-west gate of the fort towards the river. From that period the number of cases daily increased, and the disease gradually extended from the north-west, to the south-east gate of the fort. On the 9th it appeared in the barracks of the European pensioners and native veteran battalion, in the immediate vicinity of the river gate; about the 13th in the artillery barracks situate on high ground southward of the fort; and on the night of the 16th in the barracks of the 53d regiment, situate on elevated ground on the south-west side of the cantonment. It continued to increase in frequency till the 20th, abated after the 22nd, and soon after declined rapidly. About the middle of January 1819 it recurred in a moderate degree for two or three days only. Many cases were reported among the native inhabitants of the town and neighbouring country in July 1819; and in some parts of the district during August and September. The disease again showed itself at this place about the middle of November, and it prevailed to a considerable extent in the early part of December 1819. This forms the history of the disease in the town and neighbourdood of Trichinopoly, after which the line of its progress coincides with the sea-coast line through Tanjore, Palimcottah, and Tinnevelly, places in which we have already noticed its occurrence on that occasion. It now remains only to trace very briefly its progress along the western or Malabar coast.

The first places in this tract at which the presence of cholera is remarked, are Hullihall and Soonda, on the east side of the Ghautt mountains, and south-west of Darwar, where it appeared early in September 1818, and continued for several weeks. It then appears to have crossed the high country and to have proceeded to Mangalore, where several cases occurred among the prisoners during the first three weeks of September, yet without becoming general; but it afterwards recurred with some severity on the 8th of November, and disappeared only about the end of January 1819. In March 1820, it reappeared in the frontier towns of Soonda, having spread according to report from the adjacent Mahratta States, and extended in June southwards to Mangalore, in a severe, rapid, and fatal form. At Cannanore, cases appeared on the 5th December near the beach, and on the side of the town next Tellicherry, where the disease had been prevailing; and very soon it became general in the town and adjoining villages,—quickly declining however, and entirely gone by the end of the month. At Tellicherry, few cases occurred till the 25th of November, when it became frequent among the poorer and most indigent inhabitants, fishermen of the lowest order, and causing much mortality among the aged, infirm, and dissolute. It is remarkable that neither soldier, policeman, nor prisoner was attacked; and the disease disappeared early in January.

The disease was reported to be prevalent in different districts of the province of Calicut in October. At the town of Calicut two cases had occurred in May; but no more were observed till the middle of October; and about the end of December, its symptoms, which had been previously moderate, became severe, and attacks numerous,—extending to the prisoners and police corps. It declined in February 1819, but continued to exist, though in a mild form, in some districts of the province until October. The poorest of the people, who suffered great privations, were its principal victims. In the neighbourhood of Cochin it appeared about the 8th of December, immediately became general, declined towards the end of the month, and disappeared early in January 1819; but recurred partially among the soldiery in March, April, May and July. At Alepey several slight cases occurred in October, and about the beginning of next month the disease became pretty general. At Quilon it appeared about the end of October, advanced slowly till the middle of November, when it declined, and without becoming very general, soon afterwards disappeared; but recurred in July and August following in the 89th regiment, and among the native inhabitants. It was reported about the same dates to be prevalent in the northern parts of Travancore.

It appears to have reached Trevandrum about the middle of January 1819. Slight cases had been frequent in May 1818; and a few had occurred about the end of August and beginning of September. The disease then extended south to Cape Comorin, and may thus be said to have completely traversed the Peninsula both in the interior, and along the two coasts of Coromandel and Malabar.

The detail which we have now submitted, of the tracts of this epidemic, refers to its course during the years 1818, 1819, and 1820, as it then affected the military forces in quarters, or the fixed population of places within the territories of the Presidency of Fort St George, or those connected with it. During the subsequent years of 1821 and 1822, epidemic attacks were less frequent among the fixed inhabitants or troops in quarters. During the year 1821 it appeared at the following places with variable severity,—at Cuddalore on the Coromandel coast in January, at Royacottah in February slightly, in the lines of the 2d regiment of light cavalry stationed at Khulladgee, in the Dooab, severely in June, in the village of Bagricottah at the same time, in a corps at Darwar in June, in the district of Canara in July and August extensively and severely, and at Salem, Sankerrydroog and Madura, in the south. During the year 1822 it prevailed at Salem in January, and at Samulcottah, first among the native military, afterwards among the inhabitants, and at Tutocoreen on the east coast, near Cape Comorin in March, when upwards of 100,000 persons were assembled on occasion of the annual pearl fishery. Yet the disease appears neither to have been extensive nor severe; of the whole number only 443 persons were attacked, and not more than 187 died. Upon the whole, it appears that Cholera was less generally prevalent during the year 1822 than it had been the preceding year. At many stations several months passed consecutively without the occurrence of a single case; and if we except Arcot, Wallajahbad, Salem, Sankerrydroog, Trichinopoly, Madura, and Calicut, at which sporadic or insulated cases continued to appear, the disease might be said no longer to exist as an epidemic.

The subsequent part of the narrative is chiefly taken up with a statement of the prevalence of cholera among troops on march, in various parts of the Peninsula during the years 1819, 1820, 1821, and part of 1822. Though this enumeration is doubtless extremely useful in illustrating many of the circumstances relating to the progress of the disease through the country, we could not hope, by any abridgement, to render it intelligible or useful to our readers, and we therefore omit it. We trust that the account already given, will go far to communicate clear ideas on the course which the disease observed, and on the degrees in which it respectively prevailed in different parts of the Peninsula. We have now to bring before our readers the subjects treated in the report of Mr Scott, which undoubtedly throws on the history of Asiatic cholera more light than has yet been done by all the writings hitherto published on it.

Mr Scott commences his report by showing, from various sources, that cholera is not a new or unprecedented disease in India. Independent of the early notices left us by Bontius, and the more recent ones by Curtis and Paisley in 1774, and by Sonnerat from 1774 to 1781, Mr Scott thinks there is reason to believe that it was noticed by the medical writers of the Hindoos. Thus, in a work ascribed to Dhanwantari, a mythological personage corresponding to the Greek Esculapius, the disease resembling cholera is arranged under the general term *Sannipata*, which includes all paralytic and spasmodic affections; and the species of *sannipata*, supposed to correspond to epidemic cholera, is denominated *Sitanga*, and described as "chilliness, like the coldness of the moon over the whole body, cough and difficulty of breathing, hiccup, pains all over the body, vomiting, thirst, fainting, great looseness of the bowels and trembling of the limbs." By others again cholera is supposed to be referred to the generic term *Ajirna* (*Dyspepsia*) of which the epidemic species, *Vidhumar Vischuchi*, is thus described. "The *Vischuchi* is most rapid in its effects; its symptoms are dimness of sight in both eyes, perspiration, sudden swooning, loss of understanding, derangement of the external and internal senses, pains in the knees and calves of the legs, griping pains in the belly, extreme thirst, lowness of the bilious and windy pulses, and coldness in the hands, feet, and the whole body."

But to pass from these ancient traces of this distemper, which, it must be confessed, are not very distinct or unequivocal, we are informed that an epidemic was observed to prevail at Arcot, and certain other places about 1781, the occurrence of which is entered in the proceedings of the Medical Board of the presidency on the 29th November 1787, in the following terms. "A disease having in October last prevailed in Arcot, similar to an endemic that raged among the natives about Paliconda in the Ambore Valley in 1769–1770, in an army of observation in January 1783, and in the Bengal detachment at Ganjam in 1781, and several other places at different times, as well as epidemic over the whole coast in 1783, under the appearance of dysentery, cholera morbus, or *mordyxim*, but attended with spasms at the præcordia, and sudden prostration of strength as characteristic marks;" and concludes with an order from the physician-general for the entry of certain letters relating to its symptoms and treatment, as a guide to future practitioners. Mr Scott gives copies of these minutes and letters in the extracts.

Mr Scott proceeds to notice the occurrence of cholera in the Mauritius in 1778, and again in 1819, at Ganjam in 1781 among the troops under Colonel Pearse, at Madras in 1782 by Curtis and Girdlestone, at Vellore in 1787 by Dr Duffin, at Arcot in the same year by Mr Davis, at Trincomallee by Mr Thomson in the Northern Circars in 1790, and in the vicinity of Trincomallee about 1804, as is imagined, by Dr James Johnston. In 1814, it appears that various fatal cases occurred at Jaulnah in troops under the medical care of Mr John Wyllie, and among troops on march from Jaulnah to Trichinopoly, under the management of Mr Cruickshanks; but at no place did they occur in frequency sufficient to constitute an epidemic sickness, till, as we have already seen, the year 1817. It is chiefly from the cases presented by this epidemic, that Mr Scott delineates his correct and clear description of the disease.

A short discussion on the nosology and nomenclature, which we omit, is followed by an account of the mode in which the disease attacks, and of its invading symptoms. Our readers will undoubtedly peruse the following description with much interest.

" The invasion of cholera generally takes place in the night, or towards morning. The patient is sick at stomach, he vomits its contents, and his bowels are at the same time evacuated. This evacuation is of a nature quite peculiar to the disease; the entire intestinal tube seems to be at once emptied of its fæcal or solid matters; and an indescribable, but most subduing feeling of exhaustion, sinking, and emptiness is produced. Faintness supervenes, the skin becomes cold, and there is frequently giddiness, and ringing in the ears. The powers of locomotion are generally soon arrested; spasmodic contractions, or twitchings of the muscles of the fingers and toes are felt; and these affections gradually extend along the limbs, to the trunk of the body. They partake both of the clonic and tonic spasm, but the clonic form chiefly prevails. The pulse, from the first, is small, weak, and accelerated; and, after a certain interval, but especially on the accession of spasms, or of severe vomiting, it sinks suddenly, so as to be speedily lost in all the external parts. The skin, which, from the commencement of the disease, is below the natural temperature, becomes colder and colder. It is very rarely dry; generally covered with a profuse cold sweat, or with a clammy moisture. In Europeans, it often partially assumes a livid hue; the whole surface appears collapsed, the lips become blue, the nails present a similar tint; and the skin of the feet and hands becomes much corrugated, and exhibits a sodden appearance. In this state, the skin is insensible, even to the action of chemical agents; yet the patient generally complains of oppressive heat on the surface, and wishes to throw off the bed clothes. The eyes sink in their orbits, which are surrounded by a livid circle: the corneæ become flaccid, the conjunctiva is frequently suffused with blood; the features of the face collapse, and the whole countenance assumes a cadaverous aspect, strikingly characteristic of the disease. There is almost always urgent thirst, and desire for cold drinks, although the mouth be not usually parched. The tongue is moist, whitish, and cold. A distressing sense of pain and of burning heat at the epigastrium are common. Little or no urine, bile, or saliva, is secreted. The voice becomes feeble, hollow, and unnatural. The respiration is oppressed, generally slow, and the breath is deficient in heat.

" During the progress of these symptoms, the alimentary canal is very variously affected. After the first discharges by vomiting and purging, however severe these symptoms may be, the matter evacuated is always watery, and in a great proportion of cases, it is colourless, inodorous, and often homogeneous. In some, it is turbid, resembling muddy water; in others, it is of a yellowish or greenish hue. A very common appearance is that, which has been emphatically called the " conjee stools," an appearance produced by numerous mucous flakes floating in the watery or serous part of the evacuation. The discharges from the stomach, and those from the bowels, do not appear to differ, except in the former being mixed with the *ingesta*. Neither the vomiting nor the purging are symptoms of long continuance. They are either obviated by art, or the body becomes unable to perform these violent actions; and they, together with the spasms, generally disappear a considerable time before death. If blood be drawn, it is always dark, or almost black, very thick, ropy and generally of slow and difficult effusion. Towards the close of the attack, jactation comes on, with evident internal anxiety, and distress: and death takes place, often in ten, or twelve, generally within eighteen or twenty, hours from the commencement of the attack.

" During all this mortal struggle and commotion in the body, the mind remains clear, and its functions undisturbed almost to the last moment of existence. The patient, though sunk and overwhelmed, listless, averse to speak, and impatient of disturbance, still retains the power of thinking, and of expressing his thoughts, as long as his organs are obedient to his will. Such is the most ordinary course of cholera asphyxia, when its tendency to death is not checked by art.

" A favourable issue is denoted by a rising of the pulse, a return of heat to the surface, inclination to natural sleep, and a diminution or cessation of vomiting, purging, and spams; these indications being succeeded, after an interval, by the reappearance of fœcal matter in the stools, of bile, of urine, and of saliva." pp. xx..xxi.

The symptoms or phenomena of cholera, however, are liable to variation. In some vomiting is slight, or soon ceases, or is altogether absent; and the substances ejected may vary, being some times bilious, in other instances, thin watery fluid. Purging is more constant, and is rarely altogether absent; but the matters discharged are liable to extreme variety. After the first emptying of the bowels, they have been observed to be greenish, or yellowish, turbid, frothy like yeast, and some times bloody, or even pure bile. In some cases they are inodorous, in others they have a rank fleshy smell. But by far the most common is that of pure serum, so thin and colourless as not to stain the patient's linen; next is the *conjee-like* fluid, the mucus, however, being always so thoroughly mixed with serum as to give the whole the appearance of milk; and in cases which proved to be mild, the matters discharged resembled *soojee* in colour and consistence. The quantity of clear watery fluid discharged is sometimes very great; and if it were uniform, the reporter remarks, it would readily explain the weakness, thirst, thickness of the blood, and other symptoms; but it is unquestionable, that the most fatal and rapid cases are by no means those which are distinguished by excessive discharges. The dejections sometimes take place without effort or uneasiness, at others they are discharged with great force,—in general simultaneously, with vomiting, spasm, and stoppage of the pulse. They are seldom attended with much griping or tenesmus, though the calls are sudden and irresistible. Pain of the belly felt on pressure, is only occasionally remarked.

Of the phenomena referred to spasm, we find the following account.

"In the low, and most dangerous, form of cholera, whether in European or native cases, spasm is generally wanting, or is present in a very slight degree. The muscles most commonly affected are those of the toes and feet, and calves of the leg; next to them, the corresponding muscles of the superior extremities; then those of the thighs and arms; and lastly, those of the trunk, producing various distressing sensations to the patient. Amongst these, hiccup is not unfrequent, but it has been observed that this symptom, in cholera, is not at all indicative of danger. The muscles of the eye-balls have not been observed to be affected with spasm, unless the sinking of these organs in their orbits may be considered to be an effect of it. The reports make frequent mention of a remarkable permanent contraction of the muscles of the abdomen, by which the belly is drawn towards the spine. The spasms attending cholera are of a mixed nature, not strictly clonic; the relaxations being less prompt and frequent than in epilepsy or convulsion, and seldom durable as in tetanus. The contractions of the muscles are invariablely attended with pain, and some medical officers have observed, that a degree of spasmodic stiffness has continued for several days afterwards. It has also been remarked, that spasmodic twitchings of the muscles have taken place after death, and have continued for a considerable time. In one case, where a man had been paralytic in his limbs, with a total numbness of them, they were severely affected with spasms, and became exquisitely sensible. It is pretty evident, that there either has been an inaccuracy in the description of spasm occurring in cases of cholera, or a sensation differing from that of spasm has been confounded with it; for, by the descriptions, we would be led to suppose that the spasms begin, and are felt, *in* the toes and fingers, which cannot be the case. As the extreme muscles, however, are generally first seized with spasm, it is probable that the small fleshy bundles in the palms of the hands, and soles of the feet, *are* affected; but there seems reason farther to conclude, that pain *is* really felt *in* the fingers and toes, and that it is referable to a sort of nervous twinge or tic doloureux in those parts, distinct from spasm, which is not uncommon in other disordered states of the digestive organs." *Report*, pp. xxiv. xxv.

The following observations on the assemblage of phenomena, to which the East Indian practitioners give the name of *Collapse*, are very interesting.

"Of all the symptoms of cholera, none is so invariably present, none indeed so truly essential and diagnostic, as the immediate sinking of the circulation. It must nevertheless be admitted, that, where instant remedial measures have been successfully practised, this symptom may not have developed itself; and that there are even cases, where an excited vascular action has been observed to accompany the first movements of the system in cholera. Some intelligent practitioners have entertained doubts whether such cases belong indeed to this disease; and there seems reason to imagine that those inflammatory affections with spasm, known in this country, and alluded to in several reports, may, in some instances, have been mistaken for it. It is farther to be remembered, that these are precisely the cases which yield most certainly and readily to our remedial means: and it consequently follows, that a medical man can seldom have the opportunity of observing whether or not this form of cholera will degenerate into the low stage. There is, however, direct evidence in support of the fact, that they have so degenerated and gone on to a fatal termination. In the case of soldiers too, in whom such symptoms have chiefly appeared, we must make some account of the quantity of spirits usually drank by them at the commencement of the disease, producing an effect on the circulation. The period, at which a marked diminution of vascular action takes place, is somewhat various. The pulse sometimes keeps up tolerably for several hours, though very rarely. It more generally becomes small and accelerated at an early stage; and, on the accession of spasm, or vomiting, suddenly ceases to be distinguishable in the extremities. The length of time during which a patient will sometimes live in a pulseless state, is extraordinary. Dr Kellett relates a case, where the pulse was gone within three hours from the attack; yet the man lived in that state, from the 3d October at 4 *p. m.* to the 6th at 2 *p. m.* On the cessation of the spasm or vomiting, and sometimes, apparently, from the exhibition of remedies, the pulse will return to the extremities for a short time, and again it will cease. The superficial veins and arteries are not always collapsed, even when the pulse has ceased. If these vessels be opened in this condition, the contained blood flows out; their walls then collapse, and no more blood can be extracted. There is no authenticated fatal instance of cholera on record, where the circulation has not been arrested, in the extremities at least, long before death took place." *Report,* p. xxv.

The reporter proceeds to describe, in a minute, but instructive manner, the various forms assumed by such symptoms as thirst, sense of heat in the epigastrium, and internal burning in general; the temperature, shrinking and insensibility of the skin to its ordinary irritants; the shrinking of the countenance; the changes which respiration undergoes, especially in becoming much slower, less frequent, and more laborious than during health; the occurrence of the state termed *jactitation;* the comparative clearness and integrity of the intellectual faculties; the state of the urine and the state of the blood. Of his observations on each of these, we can make room only for those relating to the state of the skin and that of the blood, which form features of the morbid process of cholera so characteristic, that they deserve to be generally known.

"The state of the skin in cholera is, in general, what we might expect to find it in patients labouring under such affections of the alimentary canal, and with the subdued circulation, which takes place in that disease. It is cold, generally clammy, and often covered with profuse cold sweats. Nevertheless, varieties occur in this, as in the other symptoms of cholera. The skin is sometimes observed to be dry, though cold; and sometimes natural, nay, in some rare instances, of preternatural warmth. An increase of temperature has been repeatedly observed to take place just before death: but the development of heat appears to be confined then to the trunk and head; and, in almost all cases, this *partial* developement of heat is found to be a fatal symptom. It is entirely unconnected with any restoration of the energy of the arterial system, or any improvement in the function of respiration. The heat, in such instances, has been observed to continue considerable, for some hours after death.

"The sensation imparted by touching the skin of a person ill with cholera is very peculiar, and reminds one of that imparted by a dead body. The skin, when much collapsed, becomes insensible, even to the action of chemical agents; and hence the usual vesicatories fail in producing any effect. The application of mineral acids, and of boiling water, in this condition of the skin, produces little or no effect, and some patients are said not to have been sensible of the operation.

" The action of mineral acids on the skin is not, however, vesication, but rather that of a cautery, the cuticle and the extremities of the subjacent vessels appearing to be destroyed by them. It has been said, that vesication could not be produced in some stages of cholera, because the production of serum was, in common with the glandular secretions, arrested; but, when we reflect on the readiness with which serous fluids are poured out in that disease, we shall be rather disposed to refer the failure in the action of vesicatories, even of hot water, to the diminution or destruction of the nervous energy of the skin. It is certain, that in a body *but just dead*, the application of boiling water will vesicate readily; and, if the accuracy of the observation respecting its non-vesicating power in advanced stages of cholera be established, we must infer that there is less vitality in the skin in such cases, the patient being still alive, than in that of a body *recently* dead of some other disease.' *Report*, pp. xxvi. xxvii.

It is also remarked, that, at an early period of the disease, leeches can procure no blood from the skin.

On the state of the blood and its circulation, we are informed that " though the reports afforded ample reference on the subject, yet it appeared to the Medical Board, to be one of such importance in the pathology of the disease, that a circular letter was addressed to about thirty Medical Officers, who were supposed, from their experience in the treatment of it, to be best qualified to afford information. Attention was especially directed to the following considerations: first the influence which the state of the blood, in those affected with cholera, might be supposed to have in producing some of the symptoms: second, the colour of the blood abstracted from a vein in a person affected with cholera: third, the colour of the blood after a certain quantity had been taken, and, the effect which any alteration of colour might have on the condition of the patient: fourth, if arteriotomy had been practised, the colour of the arterial blood in cholera: and lastly, the period, from the first attack of the disease, at which blood was abstracted. It is established by the replies to this letter, as well as by an immense mass of concurrent evidence, that the blood of persons affected with cholera, is of an unnaturally dark colour and thick consistence. These appearances are very uniformly expressed by the terms, dark, black, tarry in regard to colour; and by thick, ropy, syrupy, semicoagulated, in respect to its consistence. The change in the condition of the blood is likewise fully proved to be in the ratio of the duration of the disease; the blood, at the commencement seeming to be nearly, or altogether natural, and more or less rapidly assuming a morbid state as the disease advances. Some very rare cases are recorded where, however, this morbid state of the blood was not observable, although the disease had been for some time established; and instances have occurred, where the blood flowed readily, sometimes little altered, where, nevertheless, death ultimately ensued. The abstraction of blood has been found by all practitioners to be very difficult and uncertain; and the uncertainty has been variously imputed to the feebleness of the circulation, to the thick consistence of the blood, and to the combined operation of these causes. The blood drawn from patients, suffering under cholera, is stated to be generally very destitute of serum, never to exhibit the appearance of buff, and to be generally disposed to coagulate quickly. Several instances, however, have occurred, where the coagulation was slow, and imperfect. A great majority of the reports state unequivocally, that, after a certain quantity of dark and thick blood has been abstracted from a patient under cholera, it is usual for its colour to become lighter, its consistence to become less thick, and for the circulation to revive; such appearances always affording grounds for a proportionably favourable prognosis. In many instances, however, no such changes have been observed to accompany the operation of bleeding, while yet the result was favourable. The blood is generally found to be less changed in appearance, in those cases of cholera, which are ushered in with symptoms of excitement, than where the collapsed state of the system has occurred at an early period. The blood has been occasionally found, on dissection, to be of as dark a colour in the *left*, as in the *right* side of the heart; affording reason to believe that in the whole arterial system it was equally changed. The temporal artery having been frequently opened, the bloood was found to be dark, and thick, like the venous blood: but it would appear, that this operation has not been performed in general, until the attempts to procure blood from the brachial or jugular veins had failed: little or no blood could be obtained, the artery merely emptying itself in a languid stream, not in a jet, and then collapsing. An instance is stated where the surgeon, despairing of other means, cut down upon the brachial artery, but so completely had the circulation failed, that no blood flowed. When reaction has been established, the blood occasionally shows the buffy coat." pp. xxix. xxx.

From "the terminations of cholera" and "the diagnosis," we hasten to the appearances on dissection, which we doubt not all will agree with us in considering as the most curious, and certainly not the least important to be known, in this sort of death, as it were, by instantaneous shock,—a sudden check to all the vital powers and living processes.

"The external appearance of European subjects, who have sunk under cholera, closely resembles that which has been noticed as taking place during life. The surface is livid, the solids are shrunk, the skin of the hands and feet is corrugated. There seems no sufficient evidence of any uncommon tendency in the body to putrefaction after death, nor of any characteristic fœtor from the abdominal cavity. No particular morbid appearances have been found in any of the cavities of the body, which are lined with *serous membranes*, or in these membranes themselves. The cavities of the pleura, of the pericardium, and of the peritoneum, have, almost uniformly, been found in a natural state; or, the deviations from that state have manifestly had no connection with cholera. The surfaces which are lined, or covered with *mucous membranes*, have, on the contrary, very generally exhibited signs of disease. These will be noticed, as the organs connected with them, come to be mentioned.

"The lungs have not unfrequently been found in a natural state, even in cases where much oppression of respiration had existed previously to death. Much more generally, however, they have been found either to be gorged with dark blood, so that they have lost their characteristic appearance, and have assumed more that of liver, or spleen; or they have been found to be in the opposite state, that is, collapsed into an extremely small bulk, and lying in the hollow on each side of the spine, leaving the cavity of the thorax nearly empty. This appearance has been so remarkable as to induce Dr Pollock of H. M. 53d regiment to conceive, that it could only be produced by the extrication of a gas within the cavity of the pleura, capable of overcoming the atmospheric pressure. It is understood, however, that opportunities were had of piercing the thorax of the dead body under water, and that no gas was extricated. As there appears to have been an absolute vacancy in the cavity of the pleura, that is to say, the lungs did not by any means fill it, it would seem that that viscus had exerted a contractile power, adequate to overcome the pressure of the atmosphere. The blood found in the lungs has been always very black. The heart and its larger vessels have been found to be distended with blood, but not so generally as the apparent feebleness of their propelling power, and the evident retreat of the blood to the centre, would have led us to expect. The right auricle and ventricle being gorged with blood, is nothing peculiar to cholera; but some dissections have shewn the left cavities to be filled with *dark* or *black* blood, which we may reckon as a morbid appearance more peculiar to it. In the abdominial cavity, the peritoneal coverings of the viscera, being *serous membranes*, present in general but little deviation from the healthy state: occasionally, indeed, the morbid accummulation of blood in the vessels of the viscera, imparting an appearance of turgidity and blueness, is evident on their exterior surfaces. We also find them bearing marks of inflammation, especially where the patient may have lingered long, before death. In other cases, the whole tube has had a blenched appearance, both externally and internally. The stomach and intestines generally persevere their ordinary volume. The appearance of the omentum is not sensibly affected in cholera. The stomach is found to be so variously affected as to destroy all grounds for pathological reasoning. It is very rarely found empty, or much contracted after death, nor has any appearance of spastic stricture of the pylorus been often detected. It has however sometimes occurred. Its contents appear to be chiefly the ingesta in an unaltered state: in some cases greenish, or yellow, or turbid matters are found. The stomach has been said to have been found "lined with calomel." Various appearances, either of active inflammation, or a congested state of the vessels, have been noticed, sometimes in one part, and sometimes in another. The parts seem as if they sphacelated, thickened, softened, and friable; and, in short, exhibit so great a variety of appearances, from a perfectly natural state, to the most morbid, that no particular light is thrown by them on the disease.

"The intestinal tube is sometimes collapsed, but oftener found to be more or less filled with air; distended in some parts into bags, or pouches, containing whitish, turbid, dark, or green coloured fluid: and in others, presenting the appearance of spastic constriction. The latter, however, is not common. No fœcal or other solid matters are found in the intestines; but, very commonly, large quantities of the conjee looking fluid, or of turbid, serous matter. The duodenum, and occasionally the jejunum have been found loaded with an adherent, whitish, or greenish mucus; at other times they have been found seemingly denuded of their natural mucus: and often perfectly healthy. Traces of bile in the intestines, or of any substance apparently descended from the stomach are exceedingly rare. Sanguineous congestion, and even active inflammation, are stated to be more common in the bowels than in the stomach; but on the other hand, instances are very numerous, where no such indications have been detected. The thoracic duct is stated to have been empty of chyle: The liver has been commonly found to be gorged with blood, but not always: it is an organ usually very vascular: and it would probably demand a nicer discrimination than has been bestowed upon the subject, to distinguish the degree of congestion in which it is naturally left by the settling of the blood after death in ordinary diseases, from that which has been observed after an attack of cholera. The gall bladder has almost universally been found to contain bile, and in the great majority of cases, even to be completely filled with it. As is usual with this secretion in cases of retention, it is of a dark colour. Very different states of the gall ducts have been described; cases of constriction, and impermeability, seeming to be equally numerous with those of an opposite character.

"The urinary bladder is found, we may say universally, without urine, and very much contracted. The lining or mucus membranes of the bladder and ureters, have been found coated with a whitish mucous fluid. The smallness of the bladder after death has been generally adduced in proof of great spasm: but it is not unfrequently found to be equally small after death from other diseases: and it seems the nature of that organ, when it contains no urine to contract, so as to leave no cavity. Dr Baillie, in his morbid anatomy, thus notices this fact. "The bladder is also found contracted to such a degree as hardly to have any cavity. This is generally not to be considered as a disease, but simply as having arisen from a very strong action of the muscular coat of the bladder previously to death." The appearance of the spleen, which is so various under the ordinary conditions of the body after death, has indicated nothing that can be mentioned as belonging to cholera. The vessels of the mesentery have been very generally found to be uncommonly full of blood.

"In the head, appearances of congestion, and even of extravasation have been frequently observed; but, not so uniformly, nor to such extent as to require any particular notice. Only one case has been given, where the state of the spinal marrow was examined; and in that, indications of great inflammation were detected in its sheath; the case, however was, in some degree, a mixed one." pp. xxxii.-xxxiv.

From the view of the appearances found in the bodies of those who have died of cholera, Mr Scott deems it manifest that the information to be thence derived is, in a pathological sense, of a negative nature only. We do not feel disposed to scrutinize with much severity the opinions of a man, who, like Mr Scott, communicates his information and the result of his inquiries with an air of the most perfect good faith, and at the same time shows great judgment and considerable talent for generalisation in the several parts of the report before us. But candour is the first of virtues; and this obliges us to confess, either that we do not understand this inference, or that the inference, if we understand it aright, has been made rather inadvertently. It is true that in the necrological appearances above mentioned, we do not find those well marked effects and traces of morbid action, which are found in many instances of acute disease; but notwithstanding, is there any other disease, we would ask, in which the intestines are found in the condition which they present in fatal cases of cholera? In what other disease, it may be asked, is the greater part of the circulating fluid accumulated in the vessels of the viscera, and the intestines utterly without solid or fluid fæcal matters, but contain instead of this natural substance "large quantities of conjee-looking fluid, or of turbid serous matter." It is not easy therefore to perceive, how this information, so far as it relates to the pathology of the disease, can be said to be negative only. We do not imagine that dissection will in every instance afford positive information, or even any information at all on the pathological nature of the disease; but it will almost invariably disclose the *effects* at least of the morbid process of which the disease essentially consists; and this information combined and illustrated or corrected by that which results from judicious and watchful observation of the living symptoms and their variations, will certainly go far to throw light on the morbid process which it is the object of the practitioner to comprehend and to combat. This we conceive to be the case with Asiatic cholera, the nature of which must be studied not from the symptoms and phenomena alone as the theoretical nosologist would do, nor from the state of parts alone disclosed by mere dissection after death; but by the mutual union of both, and by applying to them the laws of sound inductive reasoning, and the best established principles of true pathology. We cannot go the length of saying that this has not been done by Mr Scott; but if there be a defective or feeble point of this accurate and elaborate report it appears at the part before us, and in the consequences to which it has led the ingenious author in his subsequent observations on the proximate cause of the disease.

If the principles which we have for years been endeavouring to explain and impress, and which we must be excused for saying, we claim some merit in explaining, be correct,—it follows that the term *proximate cause* and *pathology* of a disease, mean the same thing. If we have not formally and *totidem verbis* announced this as an undeniable principle, we have repeatedly and in all our opinions and expositions of medical writings, acted, spoken, and written in this manner. It is not the fate of any one to have his opinions, however obvious and undeniable, universally admitted; nor does it happen to every one, whose opinions are admitted to be just, to have them applied to practice. We have not the vanity to think that those which we may express are entitled to general adoption; nor can we expect that however rational they may appear to ourselves, no one can hear them without admitting their truth. Yet, we must say, it astonishes us not a little to find a gentleman of the mind of Mr Scott, giving us first an explanation of the symptoms of cholera, and some pages after, entering on a discussion of the *proximate cause* of the disease, yet, so far as we can discover, without in the least alluding to the application of the evidence afforded by dissection to establish this theory of proximate cause. In the former explanation, we find certain very rational and veracious statements of the relative condition of the mucous and serous membranes in cholera, and of the great derangement or total suspension of every process of healthy secretion. So far this is well. But what is to be said of the subsequent discussion on causes, predisposing, remote, or exciting, and *proximate*, or, as it should be named, pathological, in which the latter is regarded as of the same family with the former, and is therefore discussed more on metaphysical, than physiological or pathological principles? The term *proximate cause* should be banished from medical reasonings; and all the confusion resulting from blending it with the consideration of other circumstances and agents, to which the name *cause* may be justly applied, would be avoided. The proximate cause of a disease is a thing so unlike to any of those circumstances which are regarded as remote and predisposing causes, that the mere attempt to join them argues gross absurdity, and leads to palpable errors.

It is further extraordinary, that Mr Scott confers so much importance on the speculations of Mr Orton, which, however valuable his work in general may be, we venture to assert, can add nothing to our knowledge of the intimate nature of the disease; and do not deserve either the attention or the refutation with which Mr Scott has honoured them. The first of these propositions, "that the proximate cause consists in a diminution of the energy of the nervous system,"—is conceived in such a happy style of generality, that it is proof equally against the most acute and the most obtuse reasoning, and defies completely all attempts at inquiry or application. Of what disease, we ask, might it not be predicated, that "it consists in a diminution of the energy of the nervous system?" What disease is there in the long list of the nosology, in which the energy of the nervous system is not diminished? Is it more remarkably or more exclusively diminished in cholera than in any other? The second proposition of Mr Orton, "that the deprivation of nervous influence thus produced, extends to all the functions, and immediately produces the disease,"—is a complete assumption, unsupported by proof, evidence, or any plausible pretext whatever; and to it also belongs the great merit of being equally applicable to any disease with which the human frame may be afflicted. According to the mode of reasoning adopted by Mr Orton, there is no disease of which it may not be said, after you have shown, that the deprivation of nervous influence thus produced extends to all the functions, that it *does* immediately produce the phenomena of the disease. It is almost unnecessary to remark, however, that theories of disease constructed in this manner are utterly independent of that faculty of the human mind, by which the relation of cause and effect is perceived. The further part of Mr Orton's theory, which ascribes *this diminution of nervous* influence to a deficiency of electricity, is either too ridiculous to be made the subject of remark, or too fine to be appreciated.

The observations which we are led to understand Mr Scott himself makes on the *proximate cause*, may be interesting to some of our readers.

"The proximate cause, or what would be more correctly expressed by the term, the nature of cholera, we would imagine not to be essentially connected with the lesion of any organ; but to be a morbid affection of the system or set of organs, by the powers of which the vital and natural functions of the body are conducted, and on which life depends. This morbid affection, however, we should conceive to be distinct from a mere negation of the powers, which naturally excite these organs. If it were a mere negation of influence, we might expect to see a simple cessation of their functions, but not the morbid phenomena usually displayed in cholera. We may, indeed, consider the affection of the sanguiferous system as an example of such simple cessation of function, and this being by far the most formidable symptom of cholera, it must be allowed to give weight to the opinion we are combating. It has been very generally concluded, though perhaps without sufficient reason, that the power producing cholera is of a sedative nature." p. li.

This is followed by a comparison of the symptoms of cholera, with the effect of certain of the most sedative poisons, as the *Upas antiar*, and the *Upas Tieutte.* The observations which follow, on the reason why cholera is endemial in hot climates, and on theories which ascribe its symptoms to absence of bile, spasm of the extreme vessels, spasm of the arteries, violent spasmodic contraction of the vessels of the skin, and of the gastro-enteric mucous membrane, &c. &c. present no peculiar interest. Of all such theories it may truly be said, that they are "the mere abuse of human learning."

"Learning, that cobweb of the brain
Profane, erroneous and vain;
A cheat that scholars put upon
Other men's reason and their own;—
A fort of errour to ensconce
Absurdity and ignorance,
That renders all the avenues
To truth impervious and abstruse."

The great objection to all these theories is the limited and partial light in which they contemplate the disease; some laying hold of one or two symptoms, some looking to one or two effects, without tracing them to the first or generative event in the series, while others assign causes, which are too insignificant and limited in their operation to account for the effects, or so impalpable that they elude investigation. Upon the whole, we cannot perceive that the pathological nature of Asiatic cholera is yet satisfactorily explained; and whoever may be fortunate enough to trace the disease to its genuine, essential, and universal proximate or pathological character, it must not be concealed that this has not been hitherto accomplished.

Of the circumstances considered as remote causes, to which we now hasten, we cannot pretend to enter into any lengthened consideration. At the first we have to notice that Mr Scott commits a slight oversight in distinguishing predisponent from remote causes, and in making the latter and exciting causes as the same. Remote causes are either predisponent or exciting;—the former being those peculiar conditions in the persons of human beings which are believed to render them fit subjects for disease;—the latter those external agents of air, soil, climate, diet, &c. the operation of which may induce, in such *predisposed* persons, the processes of disease. It is well known that it is not in all cases easy to draw the line of distinction between these two orders of causing agents; and what may at one time, and with regard to one individual be a predisposing cause, will prove at another time, and to another person an exciting cause, and *vice versa;* and this remark is particularly applicable to epidemic distempers. The exciting causes in the present instance are said to be errors and sudden changes in diet; vicissitudes of the atmosphere; the action of certain medicines; fatigue, exposure, depressing passions, and in general every remote cause of diseases of the *neurotic* class. Now it is manifest, that in ordinary circumstances, and in the case of many other diseases, these agents would be admitted as predisponent simply, or powers which rendered the body liable to be acted on by another agent which is supposed to be the immediate and essential cause of the disease. "It will readily be perceived," says Mr Scott, "that most or all of these causes have been in operation from the beginning of the world; and are such as the great bulk of mankind are exposed to in all situations of the globe. It is only during the operation of some other influence, therefore that such remote (predisponent) can be supposed to have any effect. But with respect to cholera even during the apparent existence of this supposed influence, we have seen numberless instances, where at the same place and time, most of the generally received remote causes seem to be innocuous."

"It is evident then," he afterwards continues, "that the remote, occasional, or exciting causes, which have been assigned as capable of producing cholera, are no more specific to that disease, than to most other diseases; and therefore, that we must look for some other cause in explaining its appearance. This cause has been very generally expressed by practitioners in their use of the term, *epidemic influence of cholera.* We do not mean, however, to restrict the inquiry into the nature of this influence, to cases of *epidemical* attacks, properly so called; but to consider the primary cause, either of sporadic or of epidemic attacks as being essentially the same; in the latter instance it is merely thrown into greater activity by the co-operation of various circumstances, as is the case with many other diseases. By the term *epi-*

demic, therefore, will be understood merely a general but unusual operation of a specific cause.

"The immediate cause of cholera, or, in other terms, the epidemic influence, will accordingly be naturally sought, either in the atmosphere, or in the soil and its productions, of those countries where it has prevailed; or, in a power sui generis, arising we know not how, but, having once arisen, capable of propagating itself, constituting what we term contagion, or infection. Each of these topics shall be the subject of consideration.

"With respect to atmospheric influence, the general historical observations, which have been premised, tend to show that cholera has neither been confined to any particular period of time, nor to any particular tract of country; but yet, that it has been infinitely more prevalent at one time than at another, and in one tract of country than another. The narrative and original papers included in the present report, and the other publications on the same subject in Bengal and Bombay, all prove likewise, that cholera is capable of exerting its influence, undiminished, in every state of atmosphere, so far, at least, as it is evident to our senses, or determinable by instruments. Thus we have now seen the disease continue for nearly seven years. During this time it has spread to China, and the Phillippine Isles, eastward; to Mauritius and Bourbon, southward; and to Persia, and Turkey westward. Our accounts do not enable us to say, that this range, wide as it is, constitutes the ultimate limits, to which the disease has extended or will extend. There is no information which can be relied upon for fixing its progress, hitherto to the colder regions of the north. Although, however, cholera seems to have arisen, and to have been sustained and spread, despite of all sensible states and changes of the atmosphere, its march over the face of the country has, nevertheless, been singularly uniform in certain lines of its progression. Instances of immunity from its attacks, in towns and villages situated in, or near these lines of its progress have been, at the same time, frequent and striking.

"We are thus furnished, on one hand, with arguments to prove, that the cause of cholera exists in the atmosphere; and, on the other hand, with no less powerful reasons for thinking, that the morbific influence may be something arising from the soil, not generally and equably diffused through the air. Ships arriving in the Indian seas ought to suffer under the epidemic influence of the air, if such influence really existed; but, it is certain, on the contrary, as already stated, that no instance has ever been recorded of the crew of a ship suffering from cholera, until the vessel had come into communication with the land.

"There seems no reason to believe, therefore, that the cause of cholera, if it exists in the atmosphere, will ever be detected in any particular state of its sensible qualities. An investigation into the proportions of its natural constituents would be equally fruitless; at least, if we may be allowed to judge from the attempts made with similar views in many other instances of epidemics, which have invariably failed in throwing any light on the subject. If the epidemic influence really exists in the atmosphere, it can only be referred in general terms, we apprehend, to the presence of some substance or quality of a deleterious kind, with which it has become impregnated, which has at all times escaped detection by the senses of men, and has been felt only in its effects." pp. xxxix. xl.

After considerable discussion of Mr Orton's hypothesis of the influence of electricity, and of the sol-lunar revolutions and periods, of the soil, of deleterious articles of food, as ooze-rice, &c., Mr Scott enters on the consideration of the question of contagion or infection, as a cause of the propagation of cholera; and after collating and comparing many facts, and estimating with much judgment and ingenuity their respective weight as matters of evidence, he concludes in the following manner.

"The evidence, which has been adduced in favour of the infectious or contagious quality of cholera, as it respects the intercourse between individuals, may be thus stated. The relations who have attended on people ill of cholera, as well as the nurses appointed in military corps for that duty, and, in general, those whose employment has led them to be much with the sick, have been observed in very many instances, to be attacked with cholera during or shortly after their attendance. For instance, a soldier's wife is taken ill and dies; her friend in attendance is also taken ill but recovers; while the husband of the former, is seized the same day at noon, and dies in the evening. Many such examples might be produced. The sick in hospital labouring under other diseases, have likewise been observed to be attacked with cholera, especially those who lay near the patients ill with that disease. Sometimes whole families have been swept off successively. Servants have often been observed to sicken after attending their masters. The instances, however, above recited, are by no means uniform; they are indeed opposed by directly opposite experiences; but it is contended, that a greater proportion of people, occupied as above described, have been attacked with cholera, than has been observed to be the case, in an equal number of people, who were not employed amongst the sick. It should be remembered also, that medical men, and hospital dressers and servants, being inured to the contact of sick, are less liable, on that account to receive infection. The exact number of Medical Officers and Servants, who have experienced attacks of cholera, during the prevalence of that disease in the Hospitals at which they officiated, cannot be ascertained. It is known, however, that thirteen Medical Officers of this establishment have died of the disease; and that between fifteen and twenty suffered attacks of it, but recovered; in perhaps every instance, the Officers had been previously engaged with patients under cholera. The circumstances of some of these attacks are very remarkable. The Medical Officer, in repeated instances, has been the only European in the corps or station, who has suffered. Dr Daun and Mr Assistant Surgeon Gray, of H. M. 89th regiment, were both seized with the disease, after intimate intercourse with the sick; and the two friends, who attended the latter, during his severe illness, were also seized, while no other European officer of the corps suffered." p. xlix.

In opposition to this is the following.

"By far the greater number of medical men concur in the unqualified opinion, that cholera is not an infectious or contagious disorder; and they conceive, that the phenomena of its origin and progress can be more satisfactorily explained by the laws of epidemic diseases in general. They observe, that there has been a marked intemperature of the seasons, preceding and accompanying its appearance; and they assume, that a certain, though perhaps occult, morbific state of the atmosphere has hence taken place, under the influence of which, the predisposing, occasional, and exciting causes, universally admitted, are sufficient for its production. Such a condition of the atmosphere may not be so general as to pervade a whole country at once: it may arise, specifically, from the soil of certain tracts only; and it may possess the power of producing a similar condition in the air, with which it comes to be commixed. The progress of almost all epidemics has been more or less progressive and gradual, although the concurrent opinions of most medical men have been directly adverse to the idea of their being of an infectious nature." p. xlix.

The treatment of this disease in India has been almost entirely empirical, or without fixed plan of cure. It is unnecessary to enter into the merits of the individual remedies, which have been generally commended or condemned, according as the cases, in which they were respectively used, recovered or terminated fatally; and almost all remedies that had ever been imagined or used, have been tried in one place or other of the spots traversed by this epidemic. The principal were opium in large doses (two to four grains, 80 to 100 drops of laudanum); ether, ammonia, camphor, castor, musk; the essential oils of peppermint, clove, and cinnamon; tinctures combining aromatic and stimulant ingredients; ardent spirits and wine; calomel in doses of 15 grains or a scruple; blood-letting; external applications, as the warm bath, vapour bath, heated sand, and friction with rubefacients; emetics, purgatives, and glysters of opium.

It will be at once perceived from this catalogue, that the notion of combating the disease on any fixed principle was well nigh out of the question; and, as generally happens in every rapid, fatal and unmanageable distemper, medicines were numerous, but none could be entitled to the name of remedies. It does not appear, from the observations before us, that opium was accounted so indispensable as it has been almost universally admitted to be in the cholera of this country; for a few practitioners abstained from using it, and recoveries took place without its use. It is a powerful auxiliary, but not a specific. The stimulating remedies appear to have been too often unavailing, in consequence of the atonic or insensible state of the stomach. Ardent spirits were sometimes beneficial in the early stage of the disease; but in its more advanced stage they often failed. The large doses of calomel seem to have been attended with as little benefit as other means. Without effecting a general change, it appears to have operated like a local irritant. "The stomach having often lost its power of rejection, this substance has been found coating its internal surface; and when given in boluses, lying embedded in greenish mucus, marks of inflammation being visible on the spot." Its exhibition in the early or *collapse* stage, before reaction has taken place, is decidedly reprobated. Bleeding has not been always successful; but there is ample evidence that cases, especially in Europeans, even under the most favourable appearances, will often, in spite of all internal and external remedies, go on to a fatal issue, where bleeding is not practised. Small bleedings are less beneficial than large; and perhaps the operation ought not to be performed unless it is carried to a considerable extent. It must be used only in conjunction with other remedies. For the other external and local means, we refer to the work.

Before we terminate this long article, we have only to say, that the letter of Dr Ainslie contains many judicious remarks on this subject, and shows him to be duly impressed with the formidable nature of the Asiatic cholera. His proposed practice, however, is, we fear, too tame for a disease so violent. The short letter of Mr Brown contains a view of the ordinary mode of treating cholera as it occurs in the warm seasons of this country; but presents nothing which can render its suggestions particularly useful in the management of the Indian form of the disease.

We cannot conclude this subject without observing, that the manner, in which the Report is drawn up, is highly creditable to the talents and judgment of Mr Scott. That it contains one of the great requisites of such an abstract,—clear and orderly statements,—our readers must have already seen; that it presents a faithful abridgement, and judicious collation of the reports from individual medical officers, we think may be safely affirmed, from comparing it with those originals which are published in the Appendix. The whole work, in short, reflects the highest honour on all concerned in its compilation;—on the Superintending Board which originated it, on the medical officers, whose diligent and unwearied personal exertions have collected the materials, and contributed to its formation, and on the Secretary, by whose discernment and elaborate zeal the whole was digested and laid before the public. It forms an invaluable treasury of materials to guide the spectators of future epidemics.

PART III.

MEDICAL INTELLIGENCE.

DOMESTIC.

MEDICAL NEWS.

Diseases of Birmingham, from October 3, 1824, *to January* 3, 1825.
By John Darwall, M. D.

ACUTE DISEASES.

	No.		No.
Cephalalgia	46	Peritonitis Subacuta	9
Hydrocephalus	7	Menorrhagia	5
Apoplexia	1	Hysteralgia	4
Odontalgia	6	Ischuria	2
Ophthalmia	10	Dysuria	10
Dentitio	8	Febris Simplex	93
Otalgia purulenta	3	Typhus	52
Epistaxis	2	Febris infantum	13
Pneumonia	16	Arthritis Rheumatica	19
Pleuritis	4	Variola	3
Asthma	74	Varicella	1
Catarrhus	29	Rubeola	1
Cynanche Tonsillaris	11	Urticaria	1
——— Trachealis	3	Erysipelas	4
——— Parotidœa	1	Rosa Infantum	2
Hæmatemesis	3	Furunculus	3
Cholera	29	Herpes Circinatus	1
Diarrhœa	33	Abscessus	11
Colica	5	Anthrax	2
Enterodynia	5	Aphthæ	5

CHRONIC DISEASES.

	No.		No.
Cephalæa	9	Gastrodynia	22
Convulsiones	8	Peritonitis C.	2
Epilepsia	19	Hysteria	11
Mania	5	Dyspepsia	130
Melancholia	1	Obstipatio	48
Hypochondriasis	5	Marasmus	67
Chorea	2	Lumbrici	2
Paralysis	5	Tænia	7
——— e Plumb.	1	Ascarides	1
Paraplegia	4	Dysenteria	22
Laryngitis C.	1	Tenesmus	3
Bronchitis C.	38	Hæmorrhoides	5
Pleurodyne	3	Icterus	16
Tussis	51	Hepatitis C.	12
Pertussis	63	Ascites	3
Phthisis P.	3	Anasarca	4
Hæmoptysis	2	Amenorrhœa	15
Palpitatio	6	Leucorrhœa	3
Asthenia	12	Nephralgia	3
Pyrosis	6	Hernia Humoralis	5

Sciatica	3	Lepra	4
Lumbago	7	Eczema	2
Rheumatismus C.	50	Herpes Labialis	4
Neuralgia	1	Impetigo	9
Podagra	2	Porrigo	21
Struma	18	Ecthyma	6
Erythema	1	Acne	1
Cachexia Syphiloidea	3	Sycosis	1
Prurigo	1	Nævus	1
Strophulus	7		
Psoriasis	9	Total,	1379

The weather throughout this quarter has been generally mild. No snow has fallen, and very little cold has been experienced. Heavy fogs have been frequent, with occasional rain; the wind for the most part blowing from the south-west.

The instances of chronic rheumatism have been numerous, and in some cases the pains were severe. Where the deltoid muscle was principally affected, acupuncturation was always beneficial; and in one woman who could not use the arm at all, this operation entirely removed the pain, no other remedies being employed at the same time. In cases in which the pains were not permanent, or where the joints were not affected generally, with stiffness and pain on motion, gentle aperients, with the cinchona bark, usually proved successful. The case of neuralgia occurred in a girl eighteen years of age, and the attacks were regularly periodical. She had two attacks within every four-and-twenty hours; the first coming on at 11 o'clock *a. m.*, and the second at 8 *p. m.*, and each enduring, with very short intervals between the paroxysms of pain, for four hours. The pain began in the situation of the left mental foramen, pursued the course of the nerve along the jaw, and ascended to the temple of the same side, which it affected generally. She was dyspeptic, and had constipated bowels. Purgatives and cinchona bark removed this affection for a few days; but it returned in about a week, and the bark was not a second time in the slightest degree serviceable. The dyspeptic symptoms had remained without improvement. Two scruples of the carbonate of iron were now prescribed, to be taken three times a day, with fifteen grains of the compound gamboge pill every night. She had no return of pain after the first day of taking the iron, and her general health has amended under the treatment. Two months have now elapsed without any return.

Pneumonia has occurred frequently in children, and has been very fatal. In very many instances it was excited by the hooping-cough, which has also been very prevalent. For this disease, external stimulant applications to the chest and spine, with mercurial purgatives, was the most successful practice. Leeches to the head were little beneficial.

Of the cases of simple fever, the greater proportion occurred in children under twelve years of age, and seldom lasted more than five or six days. They appeared chiefly to arise from gastric derangement. The greater number of the instances of typhus fever also are reported to have been very mild. Nine of these were fatal, six or seven of which were in the fever wards attached to the town infirmary. In no instance was there any reason for suspecting it to have originated in contagion. The worst cases, as usual, were found in the neighbourhood of Thomas Street.

The palsy, from lead, was in a painter, and the right hand was alone affected. The splint applied, as directed by Dr Pemberton, was very beneficial. It was not constantly worn, but the patient often removed it for a quarter of an hour. In six weeks he had very nearly recovered the perfect use of his hand.

One of the cases of croup was fatal. The usual false membrane was found fully formed within the larynx. Another instance happened in a girl ten years of age, who had lost two brothers from the same disease, and had herself, according to the report of her mother, been attacked eleven times. This was the twelfth attack, and was again relieved by very active depletion.

Eight of the cases of epilepsy were under my own care, and in none was the aura epileptica experienced. In the older cases, the argentum nitratum in five grain doses, three times a day, was useful in suspending the attacks.

Extract from the Minutes of a Meeting of the Medical and Physical Society of Calcutta.—It is now some time since the Medical Officers in India associated themselves to form a Society to meet at Calcutta, for the purpose of concentrating and disseminating knowledge on all subjects connected with the profession. When we consider the vast extent of our Indian possessions, the variety of climate, soil, and accessory circumstances, which it comprehends; the different races of men, their religious institutions, diet and modes of life—the immense field it presents for the cultivation of Natural History, particularly as connected with Dietetics and Medicine, is obvious, and when we consider the great number of able professional gentlemen placed in such fortunate circumstances for the acquisition of knowledge, we anticipate with confidence the result of an arrangement by which the individual observations of each may be readily made to contribute to the general advancement of our profession, and again readily disseminated to the most remote situations.

The result of the labours of this Society, which are thought worthy of being communicated to the professional Public of Europe as well as India, in a more formal manner, will be published in the shape of Transactions, of which the first volume is now at press, and nearly finished; but besides this, they have devised a more expeditious manner of communicating to their Members, most of whom are placed at a distance from Calcutta, a brief notice of the subjects which are brought under the consideration of the Society, by transmitting to each a printed Circular Minute of the proceedings at each meeting. That of September 1824 is now before us, and the following extracts from it will not be uninteresting to our readers, and will show that our brethren in the East are not behind us in zeal or knowledge.

Mr Annesley's paper on the use and abuse of Calomel, and Mr Playfair's Letter on the peculiar property of the Mudar, were then read and discussed.

Mr Annesley commences his paper, by remarking it as singular, that after so many years experience in the use of calomel, and the great diversity of opinion yet prevailing on the subject, no investigation should have been entered upon, with a view to ascertain the direct effects of this medicine on the stomach and bowels, and the alterations it gives rise to in their secretions. He then proceeds to state his mode of administering the remedy, which was at one time, to give moderate quantities; but on perusing Dr Johnson's work, he was induced to alter his practice, and to substitute 20 grains for his former doses. The diseases he commonly employs it in are Fever, Dysentery, and Hepatitis; and he gives it in combination with two grains of opium every seven or eight hours, followed up by a brisk purgative. The mouth should never be affected; and when this takes place, Mr A. conceives the salutary operation of Calomel is interrupted. With respect to a prevailing belief, that many constitutions in India are ruined by the use of this drug; if there be any truth in it, Mr A. is disposed to attribute such deleterious influence to perseverance in small doses, after the necessity for using the medicine has ceased. His opinion is, that a large dose of Calomel acts as a sedative. With reference to ascertaining its direct effects, Mr A. instituted a series of experiments on dogs, administering the drug to them in doses of one, two, and three drachms; and after a definite period, killing the animals, and inspecting carefully the stomach and intestines. The results he considers highly satisfactory; and they lead to the inference, that the natural state of the stomach and intestinal canal is high vascularity; and that the operation of the Calomel in large doses is opposed to inflammatory action. Hence is explained in some degree the effect of scruple doses of Calomel, in allaying irritability of stomach and vomiting, a circumstance which Mr A. has often witnessed with astonishment. The operation of Calomel on the secreted matter of the intestines is both chemical and mechanical. It renders this more fluid, and imparts to it a blackish grey colour. The former property Mr A. thinks may explain the benefit derived from Calomel in obstructions of the *ductus communis.* He makes some observations also on the change of colour produced by the admixture of Calomel with cystic bile; and concludes the paper by expressing a hope that the experiments detailed may lead to a farther investigation of the subject, and induce his fellow Members to turn their attention towards it.

Mr Playfair in his Letter details an effect of Mudar lately observed by him, which seems to assimilate its action on the living fibre, to that of Mercury. In cases of Fever, Dysentery, and Hepatitis, where this last remedy has been persisted in to a very considerable extent without affecting the gums, or where the mercurial action has been suspended, the Mudar, given in the dose of three grains every hour, or second hour, has brought on every affection, with the same amelioration of symptoms as from the mineral itself. This, as a matter of fact, he leaves without comment, and offers to present an abstract of the cases to the Society, should they be required, at a future period. Mr P. in his letter also makes some observations on the new mode of preparing and employing several vegetable remedies, as described by C. D. Haden, Esq. With reference, in particular, to Strychnine, Mr P. observes, that the author regrets one variety of the genus, which yields this principle in great purity, should be so scarce in commerce, namely, St. Ignatius' Bean (Hind. *Papeita.*) This nut, Mr P. adds, is by no means rare in India, and may be found in most bazars. He accordingly suggests, that means should be adopted by the Society for procuring a supply, and transmitting it to Europe. With a view to inducing trials of the efficacy of this remedy, Mr P. in conclusion presents a translation on the use of this article from a native Pharmacopeia in his possession. This describes the virtues of the nut, as being powerful against an infinite variety of disorders. Among others, Colic, Palsy, Tetanus, and Intermittent fevers, are mentioned; and in bites of snakes, and stings from venomous insects, it is said to prove highly beneficial. Fried in oil, it forms an excellent application to Chancres; and a Tincture prepared from it, cures Cholera and excessive vomiting.

The following communications were then submitted by the Secretary. A case of obstinate Epistaxis, by Mr J. Tytler of Monghyr. Observations on Ophthalmia, with an outline of four cases of the disease, by Mr Corbyn of Allahabad. An account of the general and medical topography of Meerut, by Dr Jackson, of H. M. 14th Regiment. A case of dry Gangrene in a native of the Ghazeepore district, with a preparation of the limb affected, by Mr B. Campbell, Assistant Surgeon, H. M. Service; and an account of a singular variety of Molluscum, with three drawings, and a preparation of one of the tumours in spirits, by Dr Adam. A letter was read from Mr W. Scot, Secretary to the Madras Medical Board, forwarding in his own name a copy of the Madras Report on the Epidemic Cholera, as a donation for the Library. Dr Wallich presented also for the Library the 2d volume of the Flora Indica, just published.

Dr Kennedy's and Dr Smyttan's papers on the Dracunculus, together with Mr Corbyn's observations, and the case of amputation at the shoulder-joint by Mr H. Clarke, were then read, and made the subjects of discussion.

Dr Kennedy commences his letter on the Dracunculus by observing, that the subject in question affords an instance of the uncertainty too often attending discussion on points of philosophical research. So equally are authorities balanced on both sides, that the inquirer finds it difficult to incline to either. After alluding to the difference of opinion which still exists regarding the nature of the malady, he proceeds to state his own experience of it; and describes a case occuring under peculiar circumstances of mismanagement by a native practitioner, as having forcibly drawn his attention to the subject. His inquiries were first directed to the natives, whose opinions and practice he relates. They believe it to be a living animal, and remove it by three modes, each depending upon the relative situation of the worm to the surface. In noticing European writers on this disorder, Dr K. particularly refers to Dr Chisholm's account in the Edinburgh Medical and Surgical Journal, and points out the difference between the local circumstances detailed by that gentleman, and those which exist in the situation whence he himself derives his experience. Dr H. Scott is also alluded to; from a comparison of whose observations with his own, Dr K. draws the inference, that all castes and classes of natives on the Malabar coast join in one opinion regarding the nature of the disease. Four instances of the worm's having been observed alive are mentioned; but to determine the matter, Dr K. procured a *Hukeem* at Baroda, who in his own presence extracted one from the back of a native, that afterwards displayed the greatest activity. With regard to the treatment of the disease, he can offer nothing new. When seated in the hand or foot, his practice is to immerse the limb in cold water, and keep the worm in a state of tension, by fastening a string of soft silk, and afterwards attaching a small weight to it. In conclusion, Dr K. suggests several questions in opposition to the theory of the worm's being a diseased tendon, nerve, or absorbent; but chiefly with reference to the latter, as the argument brought forward is now principally in favour of it.

Dr Smyttan, in his paper on the same disease, details the results of his experience for a term of three years, during which time he had charge of the artillery at

Matoongha. The topography and climate of the cantonments are described, together with the geological relations of the soil, and the quality of the water in the adjoining tanks and wells. Cases of the disease first shew themselves in May and June, and continue to occur throughout the rainy season. The European officers suffer in common with the privates and the native gun lascars; nor are the women and children in barracks exempt from it. From observing that the recruits were not affected with the disease, and other facts, Dr. S. conceives he may safely assert the Guinea-worm never appears in any one previous to the second season of residence. He is further led to conclude, that the susceptibility to it is acquired only during the rainy season. At Matoongha, the disease prevails at that time for the year; but in the Konkan, chiefly during the months of March, April, and May. Dr S. believes that the worm is generated in the body by means of ova conveyed in the water drank. This opinion is founded on several circumstances, but principally on the remarkable fact of his having discovered, on dissection, two of these worms situated within the cavity of the abdomen, one attached to the liver, and the other to the left kidney. Besides observing distinctly in several instances the vitality of the worms, it has happened to Dr S. to ascertain that they possess a considerable migratory motion previous to their extraction from the body. He does not profess to advance any thing satisfactory on the treatment of the disease; but as far as his experience goes, the plan suggested by Mr Scott of Madras, promises most for the speedy and safe elicitation of the worm. Under the idea that the origin of Dracunculus is derived from ova taken into the stomach, Dr S. thinks the prophylaxis should consist in boiling and filtering the water used, or avoiding well water entirely during the rainy season.

Mr Clarke's case of amputation at the shoulder-joint, occurred in a camel-driver, whose arm had been severely lacerated by the animal under his charge. The injury was received on the 7th of April, in the country, at some considerable distance from Goruckpore; and the man did not reach that station till the 14th. The wound at that time presented a frightful appearance, and was full of maggots. The artery having been taken up about an inch from the margin of the sound parts, spiritous fomentations were applied, with charcoal, and the sloughs afterwards removed. Tincture of opium was at the same time administered regularly, and a small quantity of wine allowed. On the 24th, suppuration having been properly established, the limb was removed at the shoulder joint. The flap was made from the Deltoid, and the Anterior Circumflex was the only vessel required to be taken up, in addition to the Axillary artery. With exception of a trifling suppuration which took place about the 25th day under the Deltoid, no untoward symptom occurred; and on the 13th June, the man returned to his home with the wound perfectly cicatrized.

Mr Corbyn's communication consists of some general remarks on Ophthalmia, with an outline of four cases of the disease, which lately occurred under his management in one family. Having frequently failed in curing Ophthalmia by active depleting treatment, he is led to conclude, that the proximate cause of it is often a state of debility existing in the delicate vessels of the conjunctiva. Reasoning from thence, Mr C. proposes several pathological views in the form of questions, with reference to the most urgent symptoms of Ophthalmia, distinguishing between those cases, where the external appearances are very obvious, and those in which the pain is acute and the suffusion less. The cases of Ophthalmia are briefly detailed, and appear to have been examples of the purulent variety. Leeches and sugar of lead lotion not affording relief, along with the usual remedies employed internally, recourse was had to ane molient poultice, which speedily soothed the organ, and removed the restlessness. This remedy was successful in all the cases, no other local application being afterwards used.

EXTRACTS FROM FOREIGN JOURNALS.

Case of Ileus with obstinate Constipation, as a consequence of Intus-susceptio, cured by an Operation. By Kreisphysicus, Dr Fuchsius in Olpe. (Hufeland's Journal der practischen Heilkunde. February 1825.) *

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* This case, on account of its successful termination and the judicious determination of the physician, reflects the highest credit on him, and deserves the atten-

One of the most painful and dangerous diseases is undoubtedly Ileus, when it occurs as a consequence of intus-susceptio of the intestines, for which reason every thing that throws light on this complaint must be acceptable, especially as, up to the present time, notwithstanding the progress we have made in the healing art, there still exist so much uncertainty and ambiguity in the knowledge and treatment of this disease. I therefore consider it my duty to make known the following case, which is worthy of notice as far as relates to the operation which was performed on the patient, as well as its successful termination. The disease showed itself in a strong healthy man, æt. 28, Thomas S. from Stifflinghausen in the district of Olpe. Whilst collecting wood, whereby he was frequently obliged to stoop, and immediately after to raise himself, all at once he felt a drawing pain in the region of the navel, rather to the right and upper part; the pain rapidly increased, and compelled him to drop his work. As soon as he reached home which he did with great difficulty, as the least jolting aggravated the pain, he laid himself down to rest. On awaking he vomited once, when some slime was thrown up; the pain was apparently lessened. Towards evening he had a stool, but it appeared to him as if the feces only came from the lower part of the rectum. During the night the pains were not so severe, but on the following day (the 10th) the patient was considerably worse; violent colick pains came on every 20 or 30 minutes, which lasted about five minutes and were succeeded by intervals of ease. The doctor of the parish, (Dr Weiskirch) from Attendorn was called to the patient, and considering that he was labouring under a spasmodic inflammatory affection of the bowels, ordered castor-oil, salts and venesection, which appeared to relieve the man. The relief was, however, of short duration, for in the evening the colick pains returned with increased violence, and appeared from every 15 to 20 minutes; at this time also he passed a good deal of wind. The pulse was soft, neither full nor accelerated, the temperature of the skin not much increased, the abdomen neither distended nor hot to the feel; warm baths were ordered, and the former means tried, and this treatment was continued up to the 14th, without any good effect. At this period five days from the commencement of the complaint, I was consulted. On my arrival I found the patient in bed, and free from pain; his countenance was pale, and slightly tinged with yellow, there was an expression of anxiety and uneasiness in the look; the eyes were also slightly yellow, and the tongue covered with a dirty fur; the temperature of the body was not much increased; the urine was of a pale yellow and turbid, and the pulse was regular, about 60, and soft. The abdomen was neither distended nor hot, but throughout its whole extent it was tender to the touch. The most sensible part was in the neighbourhood of the navel, rather on the right side superiorly, just where the ascending portion of the colon terminates, and the transverse begins; here there was an evident hardening. The exact extent of this spot, on account of its depth, could not be accurately ascertained, but it extended itself from the right towards the left side, commencing about two inches above the navel on the right side, and reaching as far as the rectus on the left. The hardened spot was unequal on its surface, and to the feel appeared like an uneven distended intestine. There was no hernia in any part. Since the 9th the patient had not had any evacuation of consequence; he had only vomited once since the attack. I had scarcely been present half an hour, when the scene changed itself; the colick pains came on with such violence, that the poor man was obliged to run up and down the room in a most distressing manner, looking out for something by which he might support himself. During this paroxysm, which lasted from 5 to 6 minutes, I found the abdomen somewhat distended and painful, particularly in the part above mentioned, where something hard, about the size of my fist, could be distinctly felt. The induration lay in a transverse direction. According to the patient's statement, this spot was the chief seat of the pain, as the pains were always most violent in this part, and also took their origin from it. Respecting the course of the disease, the patient could assign nothing which had produced it; it came on suddenly whilst engaged about the wood in the forest; he had neither eaten anything out of the common way, nor had he caught cold; in short the complaint came on all of a

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tion of every medical man both on account of its rarity, and the important information it affords respecting the diagnosis of the complaint. *Hufeland.*

sudden, without any assignable cause whatever. The etiology of the case was quite obscure to me, and I could not distinctly decide on the nature of the disease. I was convinced that neither a pure inflammatory, nor a spasmodic affection was present, as many of the distinguishing marks of both were absent. The idea, however, struck me that the complaint arose from mechanical obstruction. On account of the violent pain, I thought it necessary again to repeat the bleeding, and also directed leeches to be applied over the hardened part. The antiphlogistic plan was continued till the 20th; baths, fomentations and clysters were all tried without any advantage whatever. The patient's strength was considerably reduced, and his spirits very much depressed. The indurated part remained the same; when the patient moved, it was painful, and during the paroxysms it was harder and more evident to the feel. The pain always began in the part, and extended itself over the whole of the abdomen. I became convinced more and more of a mechanical impediment, and of an entanglement (Verwickelung) or running of one part of an intestine into another (Einschiebung), as being the probable cause of the complaint. I stated to the relations my opinion of the case, viz. that without an operation I considered recovery scarcely possible, and for the operation to have the best chance it should be performed soon, before inflammation and mortification of the intestines should take place.

From the treatises on surgery of both old and modern times. as far as my recollection served me, nothing satisfactory or conclusive was to be drawn. The best authorities all stated, that there was no sure diagnostic mark which pointed out with certainty the presence of a volvulus or an invagination of the intestines. Among many others, I will only here quote the words of the great Richter on the subject, to be found in his *Specielle Therapie*, Band 4, p. 224. "The extraordinary difficulty of the diagnosis," namely of the volvulus, "so that one can never know with certainty where the mechanical impediment is to be sought, and the circumstance that the operation can only be undertaken after a long continuation of the disease, when all other means have failed, and internal inflammation and adhesions have probably taken place, are sufficient to prevent us from expecting a successful issue. Notwithstanding, cases occur where it is the duty of the physician to risk the operation." These last words first created in me the idea of the possibility and necessity of an operation in the case before me. Before I performed the operation, I was not aware of any case in which a similar operation had been performed with success; afterwards, however, I found that Nuck had operated successfully. *(S. Velse in Halleri Disput. Anat. Tom. VII. p.* 126.*)*, and this is the only successful case I know, contained in the annals of medicine. On the other hand, there was no lack of unsuccessful operations for this complaint, *(S. Hægg in Sandifort Thesaurus Dissertat. Vol. III.)*, from Barbette *(Opera Chirurgica Anatom. Lib. X. Cap. II.)* and Hevin *(Memoires de l'Academie de Chirurgie, Vol. IV. p.* 201*)* down to Zang, *(Operationen, Bd. 3, a, p.* 212.

The patient still continued in the same state, and all the means which had been tried produced no good effect whatever. I therefore determined to change the remedies and try some others. Internally I ordered every half hour from two to three table-spoonsful of lukewarm red oil, and every hour a grain of opium, and this was continued for six hours in succession. From the use of oil in conjunction with large doses of opium, I have sometimes seen very good effects in obstinate costiveness, particularly in strangulated hernia, combined with a spasmodic affection of the intestines. At the same time I ordered the abdomen to be rubbed with warm oil. The effect of this treatment was a longer absence of the violent pain, a natural consequence of the lessening of the peristaltic action of the intestines through the operation of the opium. Together with these means I tried several clysters with cold water, which were thrown up the rectum in a strong and long continued stream. These on the removal of the pipe were always immediately returned, and according to the patient's feel they reached as far up as the hardened part, but no farther. From these clysters, which Molinari in Italy first tried, and de Haen strongly recommended, and which Abercromby, Smith, *(vid. Edinb. Surg. and Med. Journal* 1823, *January)*, Maxwell, (London Med. Repos. 1824, Jan.), and Dr Robert Chisholm state to have been used with benefit, were tried in this case without the least advantage. I regret that I did not try the inflation of the intestines in this patient. Hippocrates, speaking of the different remedies in this complaint, says, (Hippocrates's works translated from the Greek by Grimm, 4 Bd. p. 168.) "Jubet hoc in effectu, alvi apertionem tentandem per glandem satis longam, ex melle paratam, quæ anteriore parte felle taurino oblinatur, et bis ac ter submittatur, quo combusta, ut inquit (Lib. III. de Morb. § 15.) stercora circa rectum intestinum contenta educantur. Post hæc clysterum adhibendum docet. Et ulterius addit sin minus hæc opem ferant folle febrili *in Ventrem indito flatus immitatur*, a quo et ventrem et intestini contractionem distendere oportet, et extracto folle, clysterem applicandum." Vid. Fred. Hoffmann medicinæ rationalis systematic, par IV. p. 294.) Also Haller in his *Physiologia corporis humani*, Tom. VII. p. 95. says, "Flatus etiam immissus celerime susceptionem depellet." Compare also Alb. Halleri opuscula pathologica, Observatio XXVII, intestinorum intro-susceptio innoxia. Lausannæ 1775.

No abatement of the disease took place, but the patient had become sensibly worse. On the 18th I found the patient extremely weak, vomiting had supervened, not however of fœcal matter, although it had the smell; the abdomen was greatly distended, but the indurated part was just in the same state and position. I enforced on the patient the necessity of submitting to the operation as the only chance of his life. I also called in two other medical men, one of whom suggested the use of pure mercury. With this exception, they agreed that every remedy had been tried. Mercury was therefore given in the dose of six ounces at a time; vomiting immediately followed the exhibition of the medicine, but none of it was thrown up. It proved, however, just as unsuccessful as all the other remedies which had been tried. The operation was therefore resolved on, and on the 19th, at 11 *a. m.* I proceeded to perform it in the presence of Dr Weiskirch.

Operation.—After the patient was placed on a convenient table, we examined accurately the situation of the hardening, and determined on opening the abdomen at the outer edge of the right rectus muscle, about two inches above the navel. After dividing the integument with a common scalpel, and making a small opening in the peritoneum, I introduced my finger, and with a blunt-pointed scalpel divided the peritoneum on it so as to make it correspond with the external opening which was between two and three inches. I then besmeared my hand with oil, and carried it into the abdomen in order to feel for the indurated part. Scarcely had I introduced my hand, than an attack of the pain came on, and a portion of the intestines was protruded through the wound, which was immediately replaced by my assistant. On continuing the examination, I discovered, in a transverse portion of the ileum, a foreign substance just where the hardened intestine was to be felt. I drew the intestine out in order to examine it more minutely. The intestine was neither inflamed nor expanded, but it contained in its cavity a soft, coherent, and compact mass, which at its upper part, was somewhat compressed, and thus felt harder than the rest. So far as I could follow this part of the intestine, this contained matter was to be felt. I also here immediately detected an intus-susceptio; but in spite of all my efforts, I could not reach the commencement of it so as to bring it out. Two modes of proceeding were open to me in order to remove the intus-susceptio, either to make a transverse incision in the integuments from the right to the left side, or to open the intestine itself. The last mode seemed to me the most advisable, both because the patient was already very much exhausted, and because the operation would be sooner completed. The intestine was opened at the end of the discovered intus-susceptio, and immediately a part of the strictured intestine came into view. I introduced my finger into the opening in the intestine which was made about two inches in length, and gradually pushed the intus-suscepted part back from the right to the left side, whilst I gently drew that part of the intestine which contained the intus-susceptio towards me. By this means I fortunately succeeded in unfolding the entangled intestine, which amounted to two feet in length. There was not the slightest trace of inflammation, nor anything unnatural to be discovered in the part; there was merely a round worm which was situated in the upper part of the intus-susceptio. Of the mercury which had been employed, I could not find any remains, although I examined the duodenum and stomach; afterwards also there was no trace of it seen. The intestine was brought together by means of six spiral-form stitches after the manner of the glover's suture, * and the end of the silk was allowed to hang out of the external wound in the abdomen. The integuments were brought together by four interrupted sutures (Knopfrath), dressings were laid over these, and lastly a bandage similar to Monro's bandage was applied. The patient was put to bed, and received some chicken-broth. After the operation no medicines were given, but we confined ourselves merely to regulating the diet of the patient, which for the few first days consisted of gruel and chicken-broth alternately changed. The colic pains left the man immediately after the operation, and he had a natural evacuation on the night of the 21st and 22d. On the 4th day the bandages were removed on account of their tightness and the distension of the abdomen. The wound had a very good appearance, being only a little red; the discharge was moderate. On the 8th day the wound was nearly closed, excepting at the lower part, where the silk hung out of the abdomen; the sutures were this day removed. From this time the patient mended daily, was quite free from pain, and on the 14th day he was completely cured, and continues well up to the present time. I endeavoured to pull the silk away, but in vain, and in six weeks after I cut away the portion which hung out of the wound, and left the remainder to its fate.

The physicians who have described this disease, vary as to its diagnostic marks. Some physicians state that volvulus or intus-susceptio can occur without constipation or pain (Vid. SELLE Medicina Clinica, p. 454.) HALLER also relates several cases where important intus-susception existed without constipation. (Elementa Physiol. corp. humani, Tom. VIII. p. 94.) Without wishing to underrate the value of such an authority, I must be allowed to state, that I believe complete intus-susceptio, on the other hand, cannot occur without constipation and pain; in very slight and imperfect intus-susceptio, these symptoms may certainly be absent, and such cases will scarcely require an operation, which is merely necessary in those of perfect intus-susceptio with obstinate costiveness that cannot be subdued by other means. Moreover the cases from Haller were only examined after death, and not seen by him in the living state, whereby it is possible that the pathological state was the last effort of nature, and took place *in articulo mortis*. In the foregoing case, ileus in combination with intus-susceptio was known by the following marks. 1. Periodical pains proceeding from one particular spot, and extending themselves over the whole abdominal region, and which were most severe in the part from which the first proceeded. In several kinds of colic also the pain is periodical, as in the pure colica spasmodica; but in this case, the known signs of spasm, which are present, are wanting in ileus *ab invaginatione*. 2. The spot from which the pain proceeded was like an induration within the integuments of the abdomen. This induration is the seat of the intus-susceptio, and can be most distinctly felt during a paroxysm of the pain, when it is more elevated, hardened, and sensible to the touch. The hardness arising from intus-susceptio can be easily distinguished from other indurations of the viscera, as of the liver, stomach, spleen, pancreas, partly by their situation, and partly by their chronic occurrence, and the disturbance which must have been previously excited in the functions of those parts. 3. The pains were exactly the same as in labour pains, the patient eagerly sought for some place so as to be able to bear down with greater power.

In opening the abdomen, I should recommend, when the indurated part is to be felt, as in this case on the right side, not to make the incision directly over the hardened spot, but in the linea alba; because then one can get at the intestines on each side better, and the commencement of the intus-susceptio will be more easily reached, in which case the opening of the intestine becomes unnecessary. Should the commencement of the intus-susceptio not be within reach, and it becomes necessary as in the present case to open the intestine, I should recommend the ligature to be cut off close to the intestine, in preference to letting it hang out of the wound, because it is impossible to remove it without pulling the intestine, and bringing the gut out of its situation. The healing of the wound also will be promoted by the plan I now recommend, because the thread is apt to excite heat, inflammation, and unnecessary discharge of matter. On the primary cause of this complaint there is a great deal of obscurity, but the proximate cause, according to my opinion, is a peristaltic action of an intestine or a part of an intestine in two opposite directions at the same time, so that the action is from above and below at the same instant, by which then one portion can be easily included in the other, the upper part extending itself whilst the lower is contracting. The remote causes may be very numerous, spasms, irritating substances in the abdomen, such as worms, &c. Whether worms, one of which was found at the beginning of the intus-susceptio, produced the complaint in this case, I will not venture to say; some physicians, however, lay stress on this point. Vid. Morgagni *de causis et sedib. morb. Tom. II. p.* 176.

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* This suture (sutura pelliorum, sature des pelliers, and in German die *Darmer Kurschnernoth*) is almost solely employed in wounds of the intestines. A very fine thread is always necessary for this suture, and in this case fine silk was used. Ed. of Ed. Med. J.

On the Use of Chichm Seed in Purulent Ophthalmia, by Dr Habbauer, *General Inspector of the Medical Department in the Army of the Netherlands.* (Graefe's and Walther's Journal, Vol. vi. Part 3d.)—The ophthalmia which had prevailed epidemically from the year 1816, among the troops in the garrison at Brussels, was at last, towards the end of 1821, observed to exist in one person only. But in the month of June 1822, the epidemic reappeared with fresh violence, and from the commencement the cases were both numerous and severe. As the symptoms of the complaint, its course, and termination, correspond with the descriptions given of them by several military surgeons, I shall not now describe them, but I wish by the following results to make known the efficacy of the chichm seed, a celebrated remedy among the Egyptians in this disease. The quantity, however, of the seed which I had was so small, that consequently the cases in which I could try it were few.

1. Fourteen patients, affected with simple inflammation of the conjunctiva, were perfectly cured by this remedy, from the third to the eighth day after the appearance of the complaint.

2. Four cases in which chemosis existed from the commencement, were perfectly restored between the fourteenth and twentieth day.

3. Nine patients in whom the complaint had become chronic, and who had tried several local means in vain, recovered under the use of this remedy from the tenth to the twentieth day after its application.

4. Two persons with inflammation of the sclerotic, in whom mercurial frictions and spare diet had been tried in vain, were cured within eight days by the chichm seed.

5. In one patient only a slight degree of irritation followed the use of this remedy, when it was immediately discontinued.

6. In every case, with the above exception, the conjunctiva soon recovered its natural appearance under this treatment, and the discharge of mucus or pus gradually disappeared, without producing any visible alteration in this membrane.

This remedy was used under two different forms; in the first, the seed was reduced to a very fine powder with some white sugar, and of this a grain was applied to the inner surface of the lower eyelid every night. In the second, sixteen grains of the seed were made into an emulsion with four ounces of water, of which ten drops were dropped into the affected eye night and morning. From a trial of both forms, I am induced to give the preference to the powder, which I used in the fourteen cases of simple ophthalmia, and in the four with chemosis with the most complete success. The emulsion, however, appeared to agree best with the nine patients in whom the complaint had become chronic, as well as in the cases of inflammation of the sclerotic.

Besides washing the eye with cold water during the use of the chichm seed, no other local means were employed, although the general antiphlogistic treatment which may assist the local remedy should not be dispensed with. In the chronic cases, the Cortex Peruvianus, Radix Calami Aromatici, Acidum Sulphuricum Dilutum were given, and the patients were also allowed a generous diet.

Dr L. Frank, in his Treatise de Ophthalmiâ Ægyptiacâ speaking of the chichm seed, says—"*Ubi nempe nullæ maculæ aderant, cum utilitate utebar saccharo albo, vel etiam seminibus Chichm.*" From this passage it is apparent that Frank did not ascribe greater efficacy to the chichm seed than the sugar. But I have tried the experiment with the finest white sugar I could get on six persons precisely in the same way as with the chichm seed, and the result was, that in each case I was obliged to discontinue its use on account of the irritation and inflammation which supervened. The chichm seed, however, is unquestionably an excellent remedy in incipient purulent ophthalmia, and even in cases where the complaint is far advanced.

History and Analysis of the Pitoya Bark.—(Drs Gerson and Julius, Magazin der Auslandischen Literatur de gesammter Heilkunde.) The attention of Mr Von Bergen, druggist in Hamburgh, who has been long engaged in a Monography of Cinchona barks, was excited by a paragraph in the Times London newspaper, intimating, that a quantity of Pitoya bark, which the Colombians esteem as equal, if not superior to Cinchona, was to be sent to England through the intervention of Mr Henderson, British Consul-general at Bogotà. Mr Von Bergen accordingly procured a quantity of Pitoya bark from Liverpool. At first inspection, he perceived that it was not a new substance, but had already been publicly sold by auction, in Hamburgh, in 1817 and 1821, at the same low prices that were given for the *China nora*, or false cinchona, and had been imported from London under the common name of Peruvian bark. On further investigation, he is also inclined to believe the Pitoya bark to be identical with a bark noticed by Mr Lambert in his Description of the Genus Cinchona (1797), who had received it from Mr Brown, under the name of Tecamez bark. It is afterwards noticed by Humboldt, who doubts whether it be furnished by a Cinchona, and says that it should be called *Cascarilla of Atacamez*, from a village on the coast of the South Sea, between Rio Verde and Rio Esmaraldita.

In opposition to this conjecture of Mr Von Bergen, we must notice, that the *habitat* of Attacamez bark is on the sea-coast of the province of Quito in Peru; whereas the Pitoya bark comes from the neighbourhood of Bogotà, on the east side of the ridge of the Andes, and grows probably at a much greater height.

Mr Von Sanden, who superintends a manufactory of Quinia and Cinchonia, subjected the Pitoya bark to a careful analysis. The decoction destroyed the colour of litmus paper, whereas it is reddened by all the Cinchonas. It caused no precipitate with infusion of tan or solution of tartar emetic, whereas few Cinchona solutions are not rendered turbid by them. Sulphats of iron gave a greenish brown precipitate; with genuine Cinchona it is a purer green. Oxalate of ammonia caused slight turbidity, in which it agrees with true Cinchona. Tincture of gall nuts caused a great precipitate, indicating gelatine and starch; but this property is not peculiar to the Pitoya and Cinchona barks. To ascertain whether Pitoya bark contained quinia and cinchonia, it was boiled in water acidulated with sulphuric acid; the decoctions were supersaturated with slaked lime; and the precipitate dried, powdered and boiled in alcohol of 80° (sp. gr. 0.850?). The tinctures passed the filter with difficulty, had a reddish colour, like diluted tincture of safron, and on evaporation left a granular resinous mass. To separate any quinia from cinchonia, if they were present. alcohol of 60° (sp. gr. 0.900?) was poured on, in which it was entirely dissolved, showing that there was no cinchonia. This tincture was alkaline by the tests of rhubarb and reddened litmus paper; its residuum, when again evaporated, was almost entirely dissolved in diluted sulphuric acid; but when tried by tincture of gallnuts for quinia, yielded no precipitate. Therefore, so far as it can be determined by chemical analysis, the Pitoya bark is not the produce of a true Cinchona, and will not prove a substitute for the cure of intermittent fever.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

On Diffuse Inflammation in the Cellular Membrane. By David Scott, M. D. Cupar-Fife. Communicated to Dr Duncan, Junior.

Dear Sir,

I beg to send, for your perusal and consideration, several cases of diffuse inflammation in the cellular membrane, which have occurred in my neighbourhood, and chiefly in my own practice, and which I think you will find illustrative of the remarks and doctrines that you have published in the Medico-Chirurgical Transactions of Edinburgh, concerning the history and nature of this disease.

1*st*, That it is a variety of inflammation not sufficiently noticed or appreciated by systematic writers; a circumstance which, from its frequency, is the more remarkable.

2*d*, That its nature and peculiarity of character have been overlooked, or not so correctly marked, as those of most other diseases are.

3*d*, That it arises from various sources of irritation, though from some more commonly than from others.

4*th*, That from its frequent occurrence, often arising as a consequence of the most common prescription, it demands much more of the attention and inquiry of medical men, than has hitherto been bestowed upon it, and to which, from its not unfrequently fatal termination, it is so justly entitled.

CASE I. *Arising from a Sprain.*

February 24th 1825.—MARY TAYLOR, 18 years of age, of fair complexion, unmarried, works at the weaving trade, and occasionally at country work, was engaged about a month ago at a family washing, during which she said she caught some cold, as she was unwell and feverish for some time. About a fortnight after, whilst engaged at the loom, she over-exerted her left arm, by which she thought she sprained her elbow-joint; soon after which, her left arm became tumefied and painful, with stiffness between the shoulder and elbow-joints, and difficulty in moving the arm.

In the course of a few days the swelling and pain reached the anterior part of the shoulder and arm-pit, and in these parts continued without much alteration for a fortnight; at the end of which time, when circumstances were becoming worse, I saw her. I found her complaining of severe pain in the anterior part of the shoulder, in the clavicular portion of the deltoid muscle, and in the arm-pit, especially when moved or pressed on. The swelling occupied not only all the hollow between the dorsal and pectoral muscles, but extended anteriorly over the pectoralis major, as far as the sternum, and posteriorly nearly to the spine; it was elastic and spongy to the feel; the skin, however, was in no way discoloured, nor did it seem to point to one place more than to another.

The accompanying fever was that of the typhoid type, with great prostration of strength; pulse ranging from 110 to 120, weak, and very compressible. She had, of her own accord, in the beginning applied leeches to the part affected, with little relief; had taken some purgative medicine; and finally, a blister was put on, which last seemed to have had a considerable effect in inducing a limit to the diffusive character of the complaint. At this time, with a view of arresting its spreading, it was lanced in its most depending part, but no matter was obtained, only a little bloody serum flowing out. Poultices were therefore ordered for a couple of days; and to allay irritation and pain, an opiate at night, with a laxative through the day, was prescribed.

By the end of two days, the swelling, though still of the diffusive character, became somewhat more pointed in the axilla, when it was again lanced, and about three large tea-cupfuls of well formed thick purulent matter were obtained, which produced a considerable subsidence of the swelling anteriorly and posteriorly. The poulticing, with mild laxatives, was continued. Next day, when visited, the wound was found closed, and in consequence no matter had escaped through the night. It evidently however had re-collected to a considerable extent; and as she always lay on her back, another opening was made as posteriorly and depending as possible, when two large tea-cupfuls flowed out, which evidently came from before and behind the pectoral and dorsal muscles; because, by placing one hand on the sternum and the other on the spine, and bringing them forward with gradual pressure to the axilla, large quantities of matter were pushed before them towards the orifice of the wound, and flowed out. To prevent its closing, a small tent was put into it, and poulticing reapplied, her bowels were attended to, and a more nutritious diet allowed. Next morning, when the tent was taken out, other two teacupfuls were obtained, and the same treatment continued.

At this time she was much emaciated, and her strength greatly reduced, and in short she had much of the appearance of a person who had suffered from a long course of typhous fever, manifested by extreme debility, weak, rapid, and tremulous pulse, a yellow or bilious cast of countenance, a clammy easy perspirable skin, with prostration of appetite.

In the course of three or four weeks her health and strength gradually recruited, during which time, however, no less than twenty tea-cupfuls (which I had previously desired her to reckon with accuracy) had flowed from the wound, indicating the great extent of the cellular membrane occupied by disease. A stiffness and immobility remained for a considerable time in the parts affected, owing most likely to the destruction of the cellular membrane, and the subsequent adhesion of the skin to the subjacent muscles, which membrane, however, in progress of time, appears to have been regenerated, as the mobility of the parts was finally restored.

CASE II. *Arising spontaneously.*

April 3d 1825.—DAVID SCOTT, aged 30, of sanguine temperament, by trade a butcher, was seized on Sunday, whilst at church, with severe pain at the insertion of the deltoid of the right arm, so much so as to arrest his attention, and to cause him to send for medical assistance; which being obtained, he was bled from the same arm, with relief at the time, confined to the house, and purgatives employed. Immediately before this attack, he was much employed in his profession, especially in the killing of pigs, in which he had hard work, with much heavy lifting.

The pain, however, recurred; the arm became tumefied, spread to the anterior part of the shoulder and axilla, in which last place, and the adjacent parts around, it remained fixed for nearly two months, showing no disposition either to go off by resolution, or terminate in suppuration, and during the while vexing the patient with much pain, especially on pressure or motion, inducing a fever of the typhoid type, with great irritability of system, and considerable emaciation.

The remedies employed were general and local blood-letting, fomentations, poultices, purgatives; all which, however, had little effect in reducing his painful symptoms. In this case blistering was not employed. At last, it began to point in the axilla, and after a while was lanced, when a great quantity, several tea-cupfuls, of purulent matter flowed out, and continued to flow for eight days; although, from the size of the swelling in the axilla, individually considered, it had not the appearance of being able to contain more than half a tea-cupful; yet, low down in the side, and behind the pectoralis and latissimus muscles, it felt quite tumified and elastic, or *boggy*, as it has been most excellently and pathognomonically called; which feeling and tumefaction decreased as the matter flowed out at the wound, showing the extent of the disease that was in action beneath, though not indicated by any discoloration of the skin. A feebleness, with stiffness in the arm and side, the integuments being affected with considerable contraction or puckering, remained for a length of time; but he gradually, though slowly, recovered.

CASE III. *Arising spontaneously, or from slight Exertion.*

August 29th 1824.—ISABEL WILKIE, aged 23 years, of florid complexion, and tolerably corpulent, at the time in good health, unmarried, was seized, in the morning immediately on getting out of bed, with severe pain in the bend of the right arm, near the insertion of the biceps flexor cubiti, which in the course of the day considerably increased, so much so as almost to cause fainting, with great languor of system, and irritability of stomach.

Next day, the whole arm above the elbow became tumefied and tense, very sensible to pressure, yet presenting no discoloration as indicative of any affection of the skin. In the course of a few days, the pain and swelling reached the anterior part of the shoulder, afterwards lodged in the axilla, and in progress of time spread anteriorly over the whole right breast as far as the sternum, and posteriorly nearly as far as the spine.

After six weeks of severe suffering and pain, accompanied with great exhaustion and constitutional disturbance, symptoms of a matter fluctuating under the skin became apparent on the inside of the biceps cubiti, in the axilla, and on the anterior and lower part of the breast near the sternum. Yet in none of these places did the affection point after the manner of a boil or abscess, limited in extent by the effusion of lymph, as indicated by the conical form, inflammation and discoloration, with subsequent thinning of the cutis, from the ulcerative absorption; but the puffiness was of a uniform diffusiveness, the skin not discoloured, and showing no disposition to point. However, it was lanced in these places, as presenting the best chance of an outlet, when the matter flowed out in large quantities, and continued to flow for several weeks, gradually diminishing.

The parts, however, remained for a considerable time, from the destruction of the cellular membrane over so large a surface, stiff and unyielding, and the skin a good deal contracted or puckered; but in progress of time the natural appearance of the latter, with flexibility of the former, was restored. The complaint lasted for four months, but she finally got quite well.

The accompanying fever was that of the low typhoid type; the depression of strength, and irritability of system, were great, of the stomach particularly so; and she had occasionally epileptic attacks, followed by a peculiar sensation of sinking, as if threatened with immediate dissolution.

The treatment, as conducted by my friend Dr Forbes, with whom I occasionally saw her, was, in the beginning, general, and afterwards local blood-letting, by means of leeches, frequently repeated fomentations, blisters, poultices, and finally wine, with a more generous diet. The good effects from the former of these remedies were never lasting; they merely retarded, but did not prevent the suppurative process, which, in this variety of inflammation, seems to be its peculiar and ultimate termination.

CASE IV.—*Case of severe Pneumonia, succeeded by diffusive Inflammation in the Cellular Membrane, arising from the Puncture of a Lancet in Bleeding.*

December 14th, 1824.—ALEXANDER PATERSON, aged 42, a tall spare man, of a dark and sallow complexion, a farmer's servant, complained for several days of hot and chilly sensations, with declension of strength and appetite, a little difficulty in breathing, and occasional pain of breast; which two last, in consequence of a journey in which he had been engaged during the previous part of the day, became towards night, on his return home, exceedingly urgent, so much so, as to induce the other servants who were with him to carry him straight to his father's house, which was hard by, instead of to their master's, and to send immediately for medical aid. I found him labouring under extreme difficulty in breathing, and great pain of the right breast, referable to between the 4th and 5th ribs. His face, and indeed his whole body, was covered with a profuse perspiration, apparently induced by the severity of his suffering; very anxious and apprehensive; pulse 100, strong and hard. Seeing it an urgent case of pneumonia requiring active means, his right arm was immediately tied up, and bled from a large orifice.

The blood flowed rapidly and in a full stream, but no remission whatever in the difficulty of breathing and pain took place, until ten tea-cupfuls of the ordinary size were withdrawn, when the pain remitted a little; but the breathing not being equally relieved, other two tea-cupfuls were taken away, being twelve in whole, or upwards of 72 ounces, when approaching syncope manifested itself, with feebleness of pulse. The blood drawn presented the buffy coat to a great extent in all the cups. His arm was bound up, and a blister ordered.

Next day, 15th, the pain, with difficulty of breathing, having recurred in the morning, six tea-cupfuls were again drawn from the same orifice, but without having recourse to the lancet, with considerable remission of his symptoms; and his bowels having been inactive for some days, a purgative was ordered; the blood still very buffy; the blister rose well.

The following day, the 16th, again bled from the opposite arm to six tea-cupfuls, the pain and oppression in breathing, with hardness of pulse, having returned; began to get nauseating doses of tartar-emetic every two hours; purgative operated well.

17th.—The pain having again returned, with difficulty in breathing, he was bled once more from the right arm, but not from the same orifice, to four tea-cupfuls, with remission of his symptoms. Ordered a solution of Epsom salts, with tartar emetic, every two hours, so as to act both on the bowels and skin.

18th.—His pectoral symptoms appear to be relieved; can breathe freely and easily without pain; pulse soft; skin moist; bowels easy, and nausea induced from the action of tartar emetic; complained of one of the orifices of his right arm being a little fretted and painful; medicines continued.

19th.—From this time made no more complaint in reference to his pneumonic attack, a sensation of weakness, or numbness, as he called it, remaining only in the part affected, as if the circulation in it was not duly restored, or the nerves of the part occupied by disease had been slightly affected with paralysis, from over-distension of the capillary vessels.

The orifice in his right arm was still sore and painful, but by restraining the motion of the arm, and keeping the lips of the wound in apposition, it soon healed. Notwithstanding, however, in a few days the arm, between the elbow and shoulder, became affected with tumefaction and stiffness, occupying, in an equal degree, the whole cylinder of the arm, which gradually went upwards, and fixed principally in the anterior part of the shoulder and armpit, and in these parts remained for about a month, with much pain and uneasiness, accompanied with typhoid fever, and great prostration of strength, without showing any tendency to terminate either in suppuration or resolution. The remedies, in the mean time, that were had recourse to, were hot fomentations, and poultices of vinegar and water to the swelled arm, leeches frequently applied to the anterior part of the shoulder, where the pain was most urgent; the same applications to the armpit and side, as the pain extended in these directions; and finally, a blister, which last seemed the only remedy that had any effect in inducing suppuration, and limiting the extent of the disease. At last two risings appeared in the axilla, at some distance from one another, which in a few days became elastic or fluctuating: when they were lanced, the lower one being opened first, the upper one immediately became flaccid, showing that they communicated; then it was also opened. The quantity of purulent matter that flowed out in a short time was immense, filling several tea-cups, besides what was lost in the bed. It evidently came from before and behind the pectoral, and latissimus dorsi muscles, as these felt spongy and elastic, or *boggy*, as you have very emphatically named it; besides, the swellings themselves, which were not large, could contain but a small quantity. The matter continued to flow for several days at the rate of two or three cupfuls daily; then became less in quantity, less of a purulent nature, and finally serous, and gradually ceased. The parts affected for a long time remained stiff and unyielding; the emaciation of the individual was extreme, and he was long in recovering strength; and, in short, appeared as if he had come out of a typhous fever, but was finally restored to health and strength.

CASE V. *Arising from a Cut in the Flexor Muscles of the Thumb.*

June 26th 1824.—ROBERT BROWN, aged 36 years, of spare habit of body, yet enjoying good health, a mill-spinner by profession; whilst occupied in breaking some wood with a hatchet, he unluckily cut the flexor muscles of his left thumb, in consequence of which considerable hemorrhage ensued. This was dressed after the rules of surgery.

A few days after, he felt the arm of the same side painful, especially about the elbow-joint, on the inside of the insertion of the biceps muscle, increased on pressure or flexure of the arm; shortly after, he was affected with headach, pain of back, general weakness and fever, for which he was bled with considerable relief, and a purgative administered. The wound in the thumb healed in a few days; but the arm in the part before mentioned continued long painful, and became tumefied, the swelling occupying the whole cylinder of the arm, but did not spread higher than the top of the shoulder, at least not so far as the axilla. At last, after a month's duration, symptoms of fluctuation appeared at the inner side of the arm, near the elbow-joint, where it was lanced, and a great quantity of purulent matter flowed out, and continued to flow for several days. The matter could be pressed a considerable distance from under the skin, and from among the muscles of the arm towards the wound made by the lancet. The skin, previous to the formation of purulent matter, was in no manner discoloured, nor showed any symptoms of erysipelas, as strictly understood, namely, inflammation in the skin. There was no red line or trace of inflamed absorbents between the cut and the part in the arm originally attacked.

During all the time he suffered much pain and irritation, and was considerably reduced in flesh and strength; he however gradually recovered health, but was a long time in regaining his wonted appearance.

For the two following cases I am indebted to my friend Mr Cunningham, under whose practice they occurred; and from whom, and the patients themselves, I obtained the history and treatment.

CASE VI. *Arising from Whitlow.*

December 25th 1824.—Mrs GARDNER, aged 50, of sallow complexion, and of a nervous irritable habit, was seized with a sudden very severe pain in the ring-finger of the right hand, so much so as almost to cause her to cry out; to alleviate which, she was induced to plunge it into hot water, nearly at the boiling temperature, which had the effect of settling it somewhat for a time.

The pain however recurred, continued very severe, and in a day or two terminated in suppuration; it was opened, and was evidently a whitlow.

In the mean time, before the termination of the whitlow in suppuration, she was affected with violent pain in the axilla; and, at the same time, two red lines proceeding from the inflamed finger, were observed creeping up the fore-arm, the one external, the other internal, which met or converged at the bend of the elbow-joint, afterwards run up on the inside of the biceps flexor cubiti, and terminated in the axilla. The pain here continued for four weeks, spreading forward over one half of the pectoralis, and backward and downwards over part of the latissimus dorsi muscle. The skin during this time was sound, and presented no appearance of inflammation; nor, as yet, was any fluctuation indicated underneath.

At last one of the glands in the axilla became enlarged and finally suppurated, when it was lanced, and about half a cupful of matter obtained. This was known to be a gland, from the hardness and compactness of its feel, roundness of form, and capability of being moved, as it were, in its situation.

The pain, however, continued in the breast, over the pectoralis and surrounding parts; and, after a deal of suffering, accompanied with fever, great irritability of system, and much emaciation, terminated in suppuration, and broke of its own accord at the outer and lower edge of the pectoralis, when an immense quantity of purulent matter flowed out, and continued to flow for nine weeks, and gradually ceased. The treatment consisted in the application of leeches to the pained parts, hot fomentations, anodynes, laxatives, and, finally, poultices when suppuration took place with a more generous diet.

The duration of the complaint was about four months, but she afterwards got quite well. The arm, however, remained long stiff and considerably circumscribed in its motion, but in process of time its flexibility was restored.

We consider this as a case in which one of the glands of the axilla was affected, together with the cellular membrane, and therefore more complex in its character than the foregoing.

CASE VII. *Arising from Whitlow.*

March 1st, 1825.—MRS REEKIE, aged 46, of sanguine temperament, and at the time in good health, works at the weaving trade, had an attack of whitlow in the right thumb, not remarkably severe, which in a few days suppurated and opened spontaneously.

Two days after the first attack in the thumb, she was seized with most severe pain in the anterior part of the shoulder and axilla, which took up her whole attention, and withdrew it from that of the thumb. Soon after it spread over the breast anteriorly, as far as the sternum, and posteriorly completely to the spine, opposite the lower angles of the scapulæ; afterwards it crept down as far as the lower lumbar vertebræ and posterior spinous process of the ilium, occupying apparently the whole pectoral muscle anteriorly, and nearly the whole extent of the latissimus dorsi of the right side. In these parts the pain continued unceasingly for about five weeks, deranging the whole system, and inducing much symptomatic fever of the typhoid type.

At last a large diffuse swelling with *boggy* fluctuation appeared in the axilla, and shortly after another above the posterior spine of the ilium; which latter having of its own accord broken first, an immense quantity of purulent matter rushed out; the upper one soon afterwards became flaccid, proving their direct communication, and indeed it never required to be opened, the whole matter taking the course of the inferior outlet.

Purulent matter in large quantities continued to flow for nearly a fortnight; afterwards it became serous, for nearly the same length of time, and gradually ceased.

The quantity of matter was so great, that to use the poor woman's expression, she wondered exceedingly how so much could proceed from so weakly a body, stating her belief that it could not be less than eight or ten quarts.

The treatment consisted entirely in the application of local remedies, viz. leeches, fomentations, blisters, poultices; and afterwards to sustain the system under so profuse a discharge, a more nutritious diet was enjoined, from which she speedily got well, her appetite having returned in more than an usual degree.

The duration of the complaint was about three months.

This was a case in which a greater extent of the cellular membrane was occupied by disease than any that has occurred in this neighbourhood.

CASE VIII. *Arising from Dissection.*

I shall merely mention in this place, that I had an opportunity in November last, along with Drs Grace and Forbes, of seeing this disease in a professional gentleman who assisted at the dissection of a young woman who had died from peritoneal inflammation. But as this case has already been very well reported by his brother, who is also a medical gentleman, in your last Journal, I shall only state, that the outlines or symptoms of the complaint were similar to those mentioned above, but particularly so to those recorded by yourself, as arising from dissection. He had a small abrasion of the cuticle upon one of his hands, which gave rise to an angry pimple. In the course of a few days he was seized with chilliness and fever, and after a little time with pain in the shoulder and axilla of the affected side, which in these places pertinaceously continued for more than a couple of months, and finally terminated in suppuration.

He, however, after the lapse of some time, got quite well, a stiffness in the motion of the arm only remaining.

The accompanying fever in this instance, had more of the typhoid character than the preceding cases, appeared more early, or nearly at the same time with the local affection; the brain was more implicated, and the depression of the system extreme; he had a great deal of morbid wakefulness, and was much troubled with phantasma.

There would appear to be in those cases arising from dissection, in addition to the usual irritating cause, the absorption of a poison, acting as a sedative on the nervous system, considerably aggravating all the symptoms, and inducing on the whole a much more dangerous disease.

The treatment employed was that for typhous fever conjoined with local remedies; which last appeared the most efficacious, as the symptomatic fever was in accordance with the local complaint, and advanced and retired with the changing condition of the latter; and at last when suppuration took place, it disappeared altogether.

I may mention here, that two other women who were employed about the same dissection, were seized with a similar affection, in one of whom it terminated fatally; and the other, after the lapse of many months, slowly recovered, suppuration having taken place to a great extent. But as these two last cases were under the guidance of a medical gentleman in the country, we will at present take no farther notice of them, it being probable he may favour the profession with their history.

Remarks.

It is impossible to peruse the foregoing cases, and those published by yourself in the Medico-Chirurgical Transactions of Edinburgh, without acknowledging that this peculiar, though hitherto neglected, but sometimes very fatal disease, has its origin from various sources of irritation, by some of which, indeed, it is induced in a much more exquisite degree than by others; but still the leading characters, or features, are the same, and evidently depending upon a like morbid action or process, and which, I think, you have with great truth referred to the cellular membrane, and to that almost exclusively.

It is difficult, in a satisfactory manner, to account for some of the phenomena of the disease, particularly the pain in the clavicular portion of the deltoid and axilla, when, very frequently, as in an inoculated finger from the virus of a dead body, no intervening link, or continuous chain of action, can be discovered between the part primarily affected, and that which latterly and peculiarly characterizes the disease. Neither are the subsequent effects in any proportion to the exciting cause, for sometimes the affection of the finger is so trifling as almost to escape notice. This perhaps can only be explained through the medium of the nervous system, or sympathy as it is called; as we know from various other instances, that irritation of a part, long continued, is capable of producing first pain, and afterwards real inflammation, in another part considerably distant from it; take, for example, irritation and pain of the stomach producing eruptions on the skin;—the well known instance of inflammation of certain parts of the liver causing pain of the shoulder;—worms in the intestines producing sometimes pneumonia, according to Morgagni, at other times inflammation of the brain. There are a few instances, however, in which it can be explained through the medium of the lymphatics, as in Case 6.; but in these we consider the affection as complicated; perhaps a gland or two will inflame and suppurate; but the extension of the disease to the cellular membrane, forms at last the most prominent feature, and the one demanding the most urgent attention. Indeed we consider, that possibly the glandular apparatus may be relieved by the communication of the morbid action to the cellular membrane.

The next particular object of inquiry, is to account for the diffusive character of the complaint. We know that phlegmon has its seat in the cellular membrane, but, from the effusion of coagulable lymph, a limit is set to its spreading at least to any extent. This also has its seat in the same membrane; but, from some peculiar circumstance, either acting locally or generally, the disposition to the effusion of lymph is deficient, and hence the spreading character of the complaint; and the extent of surface over which it proceeds is sometimes so great as to excite a particular sympathy in the whole system, not unfrequently depressing the whole powers of life. Some might be inclined to ascribe this to the intensity of the local action overstepping the bounds which are favourable to the effusion of lymph; but we can hardly admit of this explanation, seeing that the intensity of action in phlegmon itself, and particularly in whitlow, appears to be fully as great, if not greater. We think, therefore, that it must be referred to some cause acting generally, depressing the nervous and vascular systems, probably below that point which is favourable to the effusion of coagulable lymph, and hence allowing of the spreading of the morbid action through a continuous membrane. That this appears to be a probable explanation, I think is in some measure apparent from the modes of treatment. Those local applications which excite inflammation in the skin, such as blisters and caustics, and by these means cause the effusion of lymph, and afterwards suppuration, seem the best remedies in limiting the extent of the disease; and if, along with these, we take into account the stimulating plan of Mr Shaw, viz. as much wine and porter as the patient can bear, we would almost imagine that we had the doctrine confirmed.

But there are some objections even to this explanation. The individuals at the time of attack are sometimes in full health and vigour; the symptomatic fever, especially in the beginning, is frequently of considerable activity; the local affection always severe, and all evidently indicating depletion, and strict antiphlogistic measures. Yet still the disease, notwithstanding this high action, shall observe the diffusive character. This would induce us to refer it, as stated by yourself, to some unknown condition of the atmosphere, which disposes certain diseases to assume the epidemic form, such as scarlatina, small-pox, measles; and this view of the matter would appear to receive considerable sanction, from the circumstance of all the cases that I have seen having occurred within these few months, and many more, in the same district of country, were seen by others. I concur also with Mr Wiseman, in stating, that during the prevalence of this disease, typhous fever, erysipelas, and rheumatism, were more common than usual, and not unfrequently fatal. This explanation of the cause, however, to those of a more philosophic cast of mind, may appear to be no solution at all, as they may assert, and perhaps justly, that it is only a roundabout way of declaring our entire ignorance of the matter. It is the only one, however, in our present imperfect state of knowledge, that we can offer on our part; but those who have attended large hospitals, must have frequently seen diseases, and especially ulcers, much influenced by the weather; and who knows not, that a whole cellarage of ale and porter may be destroyed by a sultry or electric state of the atmosphere? and from the same cause also, butcher meat runs rapidly into putrefaction. Temperature, however, does not seem to have much effect, as the disease has occurred as frequently in winter as in summer; neither does the state of health of the individual appear to have any influence, as some of those who suffered from it, were at the time of attack in robust health.

On the subject of diagnosis we shall only say a few words, referring those, who are desirous of perusing a more elaborate investigation, to the Edinburgh Transactions. The two diseases with which it is most likely to be confounded, after the symptoms have been fully formed, are, erysipelas and typhous fever; from the first it is distinguished in all the pure cases, by some evident cause of irritation being previously applied—by the non-inflammation of the skin—by the swelling having a peculiar elastic or *boggy* feel—by the disease concentrating itself in the axilla of the affected limb and parts surrounding—and by its universal termination in suppuration;—not having heard or read of one instance in which the case, not being fatal, did not terminate in this way.

From typhous fever, it is distinguished by the febrile affection being symptomatic of a previously existing local action—by the fever corresponding in intensity to the intensity of the local affection, advancing as it advances, and diminishing as it subsides—by the brain being much less implicated, with the exception of those cases which arise from dissection—by its history—and by its non-contagious character. In those cases arising from dissection, the diagnosis is much more difficult; in general, it can only be made out from the history, by the fever being complicated with a violent local affection, and that being seated, as usual, in the axilla and surrounding parts of the affected extremities.

The treatment that I have found most successful, in those cases arising simply from irritation, when the individuals possessed tolerable strength, and when the affection, as yet, was confined to an extremity, has been, in the beginning, general blood-letting, sometimes repeated, according to the violence of the symptoms, followed by leeches and cold applications locally, with purgatives, in the hope of procuring resolution, which however, I must confess, I never was able to effect. But as soon as the affection has reached the armpit and adjacent parts around, all attempts to procure resolution appear to be useless, as they merely retard, but do not prevent, its peculiar tendency to suppuration, and as a greater effort of the system to support the suppurative process is necessary than what is required for simply resolution, I desist then both from general and local depletion, unless circumstances are otherwise very urgent—applying heat and moisture to the affected parts, by means of fomentations and poultices, both as hot as they can be borne, with the intention of hastening the suppurative stage. When the affection shows much tendency to spread, I employ blisters, and sometimes apply caustic potass, with the view of exciting inflammation in the skin, and thereby limiting the diffusive character of the complaint, by the effusion of coagulable lymph; poultices to be again applied after these; and, as soon as possible, the parts to be opened by a lancet, or otherwise deeply scarified, even although matter should not yet be found, as the effusion of even serum is serviceable.

As a general evacuant, I gave an ounce of Epsom salts, with two grains of tartar-emetic in eight ounces of water, half a wine glassful of which is taken every two hours, commencing from the very beginning; and this I find a most excellent remedy, not only in this but in most febrile and inflammatory complaints; it diminishes the force and frequency of the circulation, and, by the relaxation and evacuation it occasions, considerably reduces the temperature of the body, and seems to possess besides not a little of a sedative effect. When the irritability of the system is great, with morbid wakefulness, I give the tincture of opium, combined with the antimonial, and sometimes ipecacuan wine, a cooling nutritious diet being allowed all the time. When suppuration has taken place, I withdraw the antimonials, and give wine or porter, with as much food of easy digestion as they choose to take; and in general, though the convalescence be slow, in a few instances they have recovered rapidly. In the affection as arising from dissection, my experience is more limited, but I consider it a variety demanding peculiar treatment; and as evidently there is a poisonous ingredient acting as a sedative on the whole system, superadded to the usual cause of irritation, and threatening with extinction the life of the individual, I conceive that general and even local blood-letting would be less useful, and that the supporting, or stimulating plan, as successfully employed by Mr Shaw, is more indicated. I would keep the patients, however, after a calomel purge or two, on the antimonial remedy, as above prescribed, as steering a medium between the two; and as, in this instance, there is little connexion between the part primarily affected, and that which latterly and peculiarly distinguishes the complaint, when resolution appears to be out of the question, I would conduct the local treatment with the sole view of inducing suppuration, upon the event of which the life of the individual seems in a great measure to depend. In reference to nosological arrangement, as it is undoubtedly entitled to a place in every system of nosology, we would place this disease, or variety of inflammation, in the 7th genus of Cullen, and order Phlegmasiæ of his first class. He has marked the character of this genus (phlogosis) with "pyrexia, partis externæ rubor, calor et tensio dolens;" and divided it into two species, viz. "phlogosis phlegmone" and "phlogosis erythema;" the former he has defined as "phlogosis, rubore vivido, tumore circumscripto, in fastigium plerumque elevato, sæpe in apostema abeunte; dolore sæpe pulsatili;" the latter, "phlogosis, colore rubicundo, pressione evanescente; ambitu inæquali, serpente; tumore vix evidente, in cuticulæ squamulas, in phlyctenas, vel vesiculas abeunte; dolore urente." We would subjoin this as a variety, after his first species, if not exalt it into a species itself, with this character,—"Phlogosis (phlegmone diffuso) colore raro rubicundo, tumore imprimis vix, postea satis evidente, sed diffuso et tactui resiliente, ambitu inæquali, plerumque in apostema, nonnunquam in sphacelum, abeunte, dolore pungente"—or, what would please us better, to erect it into a genus coming immediately after that of Phlegmon, in the class of symptomatic fevers, and order Phlegmasiæ of the system of Dr Wilson Philip, with the change of the word "phlegmasiæ" instead of phlogosis, that he has, and I think with reason, suggested as an improvement upon the system of Cullen.

Cupar Fife, 1st *June*, 1825.

II.

On the Pathology and Treatment of Headach. By J. L. Morgan, M. D.

(Continued from No. 84, page 15.)

III.—Of those Headachs which arise from Morbid Sympathies.

These headachs have their source in parts distant from the head, diseased either in structure or function; and from the local irritation (by reason of the sympathy established through the medium of the nerves between every part of the system), there is produced in the head, in the first instance, disorder, and, if long continued, a train of morbid actions there; hence probably also originates the delirium, which is unattended with fever or increased vascular activity, of which numerous examples are furnished by the records of medicine. Some persons, indeed, doubt the existence of headach, and other morbid symptoms manifested there, unconnected with primary disorder in the head, and affect to ridicule the idea which refers it to sympathetic influence. The doctrine, however, of sympathy, or consent of parts, is of ancient date, and no modern invention. Hippocrates and Galen both attribute diseases to this cause; although they did not explain it as taking place in the manner we do, viz. through the medium of the nerves. Galen expressly attributes those headachs which do not arise from organic disease, to the noxious vapours arising from the stomach, or other diseased parts. In thus tracing the causes of a certain class of headachs to sympathy, Galen did not err, in the opinion of his successors; the learned Sennertus, Willis, Riverius, and others, have followed in his steps. So intimate and powerful, indeed, is the sympathy between the stomach and intestines and the brain, that individuals are known (when it has been intensely and morbidly awakened) to have lost their reason. I have been informed, by a medical friend, of a case of this kind which came to his knowledge, and have read of others. An insane man (who had been in that deplorable condition for a time) being in a house in which there were painters, contrived to get hold of one of the pots of white paint, consisting of white lead, turpentine and oil; and in the absence of the workmen he actually swallowed to the extent of three pounds; it soon brought on the most dreadful sickness, with urgent vomiting, which continued for a time; at last he threw up a great mass of worms (I think of tape-worm). From that time, he not only recovered his health but his intellectual faculties. Nothing can be more evident, than that the insanity was owing to the irritation occasioned by the worms in the intestinal canal, communicated by sympathy to the brain, and so disordering its functions.

It seems to me not a little surprising, that doubts should be entertained as to the reality of sympathetic influence, when so many familiar instances are perpetually obtruding themselves on our notice, particularly illustrative of that peculiar sympathy which subsists between the head and stomach. It is well known, that when the stomach is in a sound state, and digestion is properly performed, the spirits are gay and the body (unless other diseases exist) is healthy and vigorous; but on the appearance of indigestion, all this health and gaiety disappear; distress, melancholy, intolerable headachs, and the long catalogue of Pandora's demons, are let loose on the wretched sufferer; and these again as suddenly take their flight, on some grateful stimulant being poured into the stomach, as if the wand of an enchanter had waved over them. We have all heard of, and some of us may have seen, the effects produced on certain individuals, through the sympathy between the mind and certain parts of the body, on the recital of some tale of horror and blood, or at the sight of a dreadful object; fainting, nausea, vomiting, convulsions, blindness, and even epilepsy (as happened in a case which lately came under my notice), follow occasionally; and from poisons being received into the stomach, headach, delirium, and convulsions, are occasioned. Similar symptoms, Hildanus * informs us, followed the swallowing of a pin, which fixed itself in the parietes of the stomach. Worms in the stomach, particularly the tape-worm, produce similar effects. A disordered condition of the stomach and bowels will produce all the varieties of intense headach—the cephalalgia, the clavis hystericus, the hemicrania; these will not unfrequently follow after a debauch, and will be accompanied with a partial loss of sight in some instances, as Lommius † informs us. I know some individuals who suffer very severely in this way, from disorder of the stomach, and in whom the first symptom is a partial, and occasionally almost a total loss of vision, which is followed by the most intense headach. Richter also very justly attributes one of the species of amaurosis to sympathy, with disorder of the stomach and liver. Schmucker and Scarpa entertain very similar ideas. When headach results from sympathy with the abdominal viscera, it is commonly attributable rather to disease excited in those parts in consequence of the disordered condition of their secretions, than from morbid changes in their structure. Numerous cases, however, are on record, where headach, severe and long-continued, originated in extensive disease in those viscera. No morbid appearances, at least, were to be found in the brain and membranes. Morgagni, in his invaluable Repository of Medical Facts, has the details of cases of this kind, where the headach was evidently the result of sympathetic influence. I may mention the case of a drunken old woman (70), who had suffered from *a continued pain in her head*, although occasionally it was increased and diminished, attended by watchfulness, loss of appetite to a great degree; at length she died. On opening the body, nothing was found, Morgagni informs us, so worthy of notice, as a *roundish scirrhous tumour*, *of the weight of a pound*, *attached to the posterior surface of the stomach*; it was very vascular, and the arteries large. The spleen was enlarged, pale, and almost as soft as a poultice; the liver was pale and variegated.

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* Hildanus Centur. II. obs. 34.

† Observat. Med. Lib. II.

" A woman about 40, accustomed to eat full provisions, and drink generous wines, had for *many years* been subject to pains of the head, of a most obstinate kind, and also to pains of the stomach, of which a loss of appetite and nausea were the consequences; these were soon followed by repeated vomitings of blood, with thirst, fever, and watchfulness; she complained likewise of tenderness about the epigastrium, on pressure being made. To this succeeded a continual fever, with evening exacerbations, with some degree of rigor before her death. Her head and stomach she still complained of, but there was at this time no vomitings of blood; there was a taste of great bitterness in the mouth, accompanied with a bad smell, but no pus was discharged. On opening the belly, the viscera were somewhat deranged in situation. The stomach was even livid extremely through a considerable part of it; its coats were likewise much thickened and hardened, excepting where they had become so rotten as to be broken through with a touch, and to discharge a matter of a brownish colour, of a strong smell, which, like a kind of fluid poultice, was contained in the stomach, into the cavity of which it had burst out of the *posterior parietes of this viscus, which were immoderately thick to a great extent, and internally tumid,* and in the same place unequal, in a corrupt, rotten, and gangrenous state, so as to leave no doubt that an abscess had burst there. The pylorus and all the intestines were found contracted. The spleen was sound, but the liver, on the right, contained some roundish and white scirrhi, both on the surface and in its substance. There was a great quantity of bile in the gall-bladder. The brain was nearly in a natural state." *

Thickening, coarctation, &c. &c. in other parts of the intestinal canal, become severally causes of headachs, and operate in two ways—as specific irritations—and likewise as obstructions to the peristaltic action of the bowels, thus disturbing their natural functions. Besides the morbid conditions of the viscera, in consequence of diseased structure, foreign bodies are found in the stomach, and other parts of the intestinal canal, and also in the liver, giving rise to this affection: Among these deserving to be especially enumerated, are worms, a fertile source of headachs, and other symptoms in the long catalogue of nervous affections. A case of this kind occurs to my recollection, of a man about 35 years of age, who had been under my care at different times on account of severe headachs, of which he had been relieved, but not cured. As there was no apparent fulness in the head, or other symptoms to induce me to attribute his severe headachs and depression of mind to primary affection of the brain, I referred them to some derangement in the chylopoietic viscera, and prescribed the usual remedies, mercurial and aloetic purgatives, with cascarilla, gentian, &c. These afforded him considerable temporary relief, but, as I have before stated, it was only temporary. The headach returning, some circumstances occurred to induce me to suspect he had worms, I therefore determined to try the ol. terebinthinæ. I accordingly prescribed it; he took at first half an ounce. This produced great general excitement, so that at night he had some degree of delirium, with a constant urgent desire of passing urine, which however soon went off from the use of diluents. The belly was not, however, opened, nor had any vomiting taken place. I judged, therefore, that the dose had been too small. I accordingly ordered that one ounce and a half should be taken, which was done. This had the desired effect; he was vomited and purged briskly by the medicine. At one effort of vomiting he threw up what he described as a knot of round worms, ten in number, (lumbrici). From this time his distressing symptoms left him, and he has enjoyed (excepting a rheumatic attack in consequence of being wetted) sound health, and a perfect immunity from his old complaints in the head and stomach. Numerous instances of a similar kind, were it necessary, might be adduced, where intolerable headachs have been produced by the irritation from these animals, especially from the tenia.

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* Morgagni, Epist.

But besides the sources of headachs found in the intestinal canal and abdominal viscera already enumerated, arising from changes in structure, and from the irritation of extraneous bodies lodged there, there remains still to be noticed, that which arises from derangement *in function*, in consequence of the secretions of these viscera becoming diminished, disordered, or vitiated, and thereby inducing weakness and irritability in these organs. The secretions which are peculiarly subject to these changes in quality, are *the bile*, the gastric fluid, and pancreatic; and indefinitely extensive is the influence which the morbid conditions of these fluids have, not on the individual organ alone, but on the general economy.

The following very interesting case, from Mr Abernethy's Essays, strikingly illustrates this point.

" May 29th, a labouring man, about 45, fell from a considerable height upon his head, and was immediately brought to St Bartholomew's Hospital. No fracture of the skull could be discerned, and the patient seemed to labour under a violent concussion of the brain. By bleeding and other antiphlogistic means, he soon recovered his senses. Every thing went on favourably for three days, when he was attacked with shivering, nausea, pain in the head, impatience of light, and other symptoms which are usually considered as denoting inflammation of the brain. He was consequently bled, and had a blister applied to the head. He was seized in the evening *with a most excruciating pain in the head*, which, after lasting half an hour, was succeeded by convulsions so violent, that three men could scarcely hold him. When the fit abated, he expressed himself much relieved, and said he was easier than before its accession. Some calomel and rhubarb were given to obviate a costive state of his bowels. On the next morning, June 2d, he had a return of the pain and convulsions, and the symptoms were so violent, that he was bled four times in the course of the day. This treatment, however, had no effect in diminishing the pain and other symptoms, and another fit of convulsions took place in the evening. The purgative operated on the succeeding night, and brought away a large quantity of highly offensive feculent matter of a light greenish yellow colour. On the 3d his breath was extremely offensive; his skin hot and dry; his pulse quick; his tongue thickly furred; and he had great tenderness in the epigastric region and right hypochondrium. He was advised to take two grains of calomel immediately, and a saline medicine at intervals; this produced two stools in the course of the day. By pursuing this plan for a few days, the state of his bowels was rendered more regular, and the discharges acquired a healthy colour; in proportion as this was effected, the tenderness of the abdomen was removed, and the tongue became clean; he had no return of convulsions; the pain of head, and other symptoms, subsided; and, in a short time, *when the digestive organs had been restored to a natural state*, he went out of the hospital perfectly well." *

A gentleman of my acquaintance, who has for a considerable time laboured under dyspeptic complaints, suffers at times from severe headach, attended with extreme tenderness of the epigastrium, so that the motion of a horse or carriage, or even walking, will occasion him considerable distress. These symptoms occur both when the stomach is full and empty. Nor is the severe headach or pain of stomach removed until relieved by vomiting. A quantity of acid matters is then thrown up, on which the headach and other uneasy symptoms disappear immediately, leaving no doubt as to the source and seat of the headach. The bowels are in this case usually regular; nor is there any symptom of disease about the pylorus.

A very interesting case of neuralgia, communicated by Dr A. Wilson of Kelso, in the XIXth volume of this Journal, made a strong impression on my mind, in respect of the morbid influence exerted by vitiated secretions of the viscera on the general economy, but especially on the nervous system; and here I allude to it, because it appears to me that there are many strong features of resemblance between neuralgia and certain kinds of headachs. In Dr Wilson's case, the patient was a male servant belonging to a farm, æt. 18 years. The painful affection began at the lip, and extended over the whole right side of his head, and attacked him in paroxysms several times daily. He had been subject to occasional attacks of the disease for 16 years. He had, after six weeks, experienced no relief from medical treatment; his tongue was covered with a foul membranous crust, although he had used calomel and saline purgatives, and an emetic or two also, followed by carbonate of iron, and arsenical solution. As Dr Wilson justly attributed the disease to disorder of the digestive organs, he was ordered a bolus containing calomel, gr. vij. tart. antim. gr. i. This made him vomit a quantity of dark corrupted bile, and pass very offensive stools; this was followed by some relief. The bolus was repeated every other morning for three weeks, followed by similar evacuations, and a great mitigation of his complaints; tongue much cleaner; and from their use, followed by opiates, laxatives, and bark, he completely recovered. No case can I conceive demonstrate more completely the influence of diseased secretions, and likewise the necessity of a persevering application of means, effectually to correct them. Many cases of headach, from a similar cause, are not relieved, from remedies not being employed for a sufficient time, or with adequate vigour.

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* Surgical Obser. Part II.

The following case from Hoffman is to the same point.

" Vir quadraginta sex annorum, proceræ staturæ, ad iram facillimus, tabaci sugendi spirituososque potus bibendi amantissimus, septimo calendarum Novembris febre corripebatur. Vocatus hinc medicus protinus sub morbi initio venam tundi jussit variaque dedit medicamina; quo factum, ut intra quatuordecim dierum spatium febris evanuerit. Verum haud ita multo post *dextrum capitis immanes prehenderunt dolores*, qui, vespertino semper reversi tempore, per integram sævierunt noctem, et non nodo somnum eripuerunt ægro, verum etiam adeo labefactarunt caput, ut visus ferme fuerit abolitus. Remittit interdiu doloris atrocitas; nulla vero est adpetentia, sed summum ciborum fastidium. Prior medicus iterum accersitus epithema ex aqua rosarum, aceto rosaceo, nitro, camphora, et quibusdam olei ligni rhodii guttis confectum adplicari jubet; sed tantum aberat ut ager inde melius haberet, ut potius dolorum atrocia incresceret."—" Dolorum, quibus caput illius nocturno potissimum tempore cum plenaria ferme somni abolitione occupatur, originem a fibrilis saburra haud penitus foras actæ reliquiis derivandum esse censeo; et hinc *causam eorum maxime in primis viis ventriculo nimirum et intestinis residere* arbitror." *

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* Fred. Hoffmann, Cons. et R. Tom. I. Cas. 4.

The older writers on medicine, who were fondly (and I confess, I think, on many occasions not without reason) attached to the doctrines of the *humoral pathology*, attributed headachs to a diseased state of the fluids. What these particular morbid states consisted in, depended in part on the received Galenical doctrines, and partly on the chemical notions Paracelsus had introduced into medicine; so that, in addition to the sanguineous, pituitous, bilious, and melancholic, the blood and serum was supposed to be impregnated with acid, sulphureous, saline, and alkalescent feculencies, which, while passing in the course of the circulation through the brain, produced there all the varieties of pain. Willis strongly favours this idea. I cannot but think, that some of the headachs which trouble gouty and rheumatic subjects, but more particularly the former, may often be referred to a cause of this kind; for how frequently may we observe that the most distressing hemicranias, and other common forms of this affection, which have month after month obstinately persisted, notwithstanding the most diligent and best directed efforts on the part of the medical attendant, shall all be removed by a fit of the gout fixing in the extremities, leaving considerable earthy deposits; and *vice versa*, on retrocession of gout from the extremities, the most afflicting, obstinate, and dangerous headachs (threatening apoplexy, paralysis, &c.) have supervened.† Hoffmann, after giving the particulars of a case he denominates "hemicrania gravissima et inveterata," in which, "siquidem non modo pericranium unius lateris partemque capitis superiorem, sed ipsum quoque oculum, dimidiam partem nasi, oris, linguæ, mandibulæ, occipitis gravi dolore pungitivo exercet, harum partium functiones lædit, ut oculus visu privetur omniaque ægrotanti *duplicata* appareant;" attributes the immediate cause of these symptoms, "ad suppressam coryzam seu impeditam seri per nares;" and adds,

"Videtur autem ad generationem hujus mali haud parum contulisse *salsa acris lymphæ intemperies arthritidis genetrix* quæ ægrotantem nostrum alias crebro infestavit, jam vero hoc malo correptum deseruit. Nam ab ejusmodi sero salso acri quo arthriticorum humores imbuti sunt, membranis nerviis inherescenti, major fit dolorum et spasmorum vehementia, sub qua utique liber humorum circuitius debitaque eorum secretio et excretio in vicinis partibus magnopere labefactatum et pervertitur: ex quo factum putamus, ut huic malo augmentum et diuturnitas accesserit. Perpetuæ enim observationis est cessantibus consuetis doloribus arthriticis partes nerveas et membraneas graviter affligi, quod videri licet in colica, et asthmate convulsivo, in tussi, rheumatismus, aliisque doloribus, quibus arthriticorum corpora infestantur." *

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† Morgagni relates the case of a nobleman who had been troubled with a hemicrania, which alternated with gout in his hand. Epist. XIX.

Dr Whytt likewise attributed periodical headachs to rheumatic and gouty humours; for, he observes, "the viscid or acrid humours obstructing or irritating the small vessels of the pericranium, muscles of the head, or dura mater, and consequently affect the nerves of those parts with a painful sensation. This may often be no other than a rheumatic, gouty, or scorbutic humour, falling chiefly on the head."

On a careful review of the pathological facts connected with headach, we are compelled to feel, that, in despite of the diligence of the anatomist, and the zeal and sagacity of the clinical observer, our acqaintance with its true nature is very limited, and that very great obscurity still hangs over this interesting subject. The variety of forms noticed by physicians, under which this affection presents itself, such as the hemicrania, the clavis, the periodical, &c. &c. is oftentimes in no slight degree embarrassing to the pathologist. Why headachs should (without local disease at least that is discernible) be confined to one-half of the head, to the fore or back part, or the crown of the head, or to a point that might be covered with the top of the finger; and why, in certain cases, headachs should return at fixed periods, the same hour of the day, observing all the regularity of a quotidian or tertian fever we cannot explain. What the particular changes are, giving rise to these varities, it is difficult, if not indeed impossible to determine. That some change in the condition of the centre of the nervous system takes place even in these cases where the symptoms naturally arise from sympathy with distant parts, as the uterus, stomach, intestines, &c. seems extremely probable; yet, from our ignorance of the functions of the nervous system, and particularly of the mode in which those functions are exercised, it is impossible to determine what those changes are. But why do we wonder at phenomena because we cannot comprehend them? Is not the entire constitution of our whole frames and mode of existence one unbroken succession of wonders? Are not the operations of nature so constantly veiled by Providence in obscurity, that philosophy is compelled to gaze in silent astonishment, oftentimes unable to offer even a rational conjecture, much less a solution? It may at least teach us the hard lesson of humility, to hesitate, ere we dispose of difficulties (not in medicine and philosophy only) with a sceptical doubt, because we feel unable to divine the explanation.

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* Hoffmann, Cent. Tom. I. Sect. i. Cas. 5.

But while we see that obscurity hangs over the pathology of the disease, it must be confessed that the difficulty and obscurity connected with the DIAGNOSIS is at times scarcely less embarrassing. The difficulty consists in accurately determining whether the brain or the viscera (in consequence of the very intimate sympathy subsisting between them) be the primary seat of disease. In the cases which have been detailed under the second division, in which the headach was clearly connected with organic disease of the head—and in those which have been inserted under the third division, in which the affection manifestly originated in sympathetic irritation, the symptoms in the head were equally severe and urgent, so as, in one instance, to have determined the medical attendant to adopt the most active treatment, viz. four bleedings in the course of one day, besides other depletions; nor was a suspicion as to the real nature of the complaint roused, till his most vigorous practice was found to be unattended with any benefit; and yet I can perceive no symptom in the history of the case, that could in the first instance be regarded as *determining* the character of the affection; and the treatment that was at first instituted was clearly such as was indicated, and such as any man under similar circumstances would be culpable in neglecting. It is true, that symptoms of gastric disease were present; there was tenderness of the epigastrium, the bowels were costive, and the feces peculiarly offensive; but these symptoms alone would not have been by any means sufficient to have determined the point.

What happened in this case, occurs likewise in cases of headachs arising from organic disease within the head, viz. a remarkable remission of the affection. It is sometimes very observable; and likewise that symptoms indicating great disorder of the digestive organs, both in the early and advanced stages of the disease (although the effect of irritation in the brain), are strongly marked. We are thus made to feel the force of Dr Parry's remark, that, after forty years experience, he had found the "decision difficult and precarious." The diagnosis is not to be determined by the peculiar nature of the headach alone, but by all concurring circumstances; and I fear, our nearest approach to certainty deserves to be regarded rather in the light of a probable conjecture than of absolute certainty. Perhaps the following general abstract of the accompanying symptoms, may be regarded as in some degree characterizing the different classes of this disease.

The symptoms which *most evidently* indicate the existence of *increased vascular activity* as the cause of headach, are, redness of the face and eyes, accompanied with a sense of distention and heat, strong full pulse, fulness and throbbing of the carotid and temporal arteries, (this is, perhaps, the most distinctive mark, as it always indicates the existence of arterial plethora, if it be merely confined to the head, as often happens when the pulse at the wrist bespeaks a defective circulation in other parts of the body); the pain of head acute, and aggravated by all stimuli, viz. light, sounds, quick exercise, warmth of the weather, or of heated rooms, by food, intoxicating liquors, animated conversation, &c.; and, *vice versa*, *quickly* relieved by quiet, depletion, low diet and cool air, sailing, and *slow, long-continued exercise.*

The symptoms indicating the existence of local plethora occasioning headach (but unconnected with vascular activity), and arising from congestion, particularly in the venous system of the brain, are, dull pains in the head, with a sense of fulness and distention; the mind readily alarmed, and confused, unsteady, and indifferent to all but its own condition, and, if the congestion continue, stupor, the countenance pale, or inclining to purple, the eyes inanimate and vacant, the pulse slow, feeble, vibrating, and sometimes almost imperceptible, the extremities, particularly the lower, shrunk, and colder than natural. These symptoms, of course, vary in the degree of severity in proportion as the congestion is more or less complete. In those cases where the congestion is partial and transient, all the more urgent symptoms are absent, and paleness, anxiety, with some oppression and unsteadiness of mind, and with a tendency to syncope, alone are present, and are soon removed by immersing the feet in hot water, and by taking some stimulant. The intellectual powers, but particularly the memory, suffer in this form of the complaint.

Symptoms of the IId Class.—The pains of the head are commonly fixed to some part of the head, but occasionally diffused, severe, and in some cases almost intolerable. Sometimes they occur in paroxysms, and at regular periods, but more generally they are continual. The character of the pain varies, being sometimes acute, and at others obtuse. It is aggravated by whatever excites the nervous and vascular systems, viz. agreeable society, exercise, hot weather, stimulant liquors, good news, all which afford great temporary relief to the headachs connected with irritation in the abdominal viscera; and is relieved by quiet, solitude, and darkness. Frequently, however, the pains suffer no remission, and are not in the least relieved by the most active and skilfully varied treatment, but proceed to their final termination by steps rapid, or tardy, as circumstances may determine. The countenance is generally pallid, and has an anxious expression; the temper is irascible or morose. Sometimes stupor or lethargy seems to affect the patient; occasionally, temporary convulsive or paralytic affections, *ex. gr.* sudden vomiting without previous nausea; distortion of the eyes, numbness of one side of the face, or hand, or foot, partial or entire blindness; the pulse is extremely various. When disease of the integuments of the skull, or of the bone itself, is the source of the headach, examination with the hand will enable us to determine.

Symptoms of the IIId Class, or of Sympathetic Headachs.—The headach is commonly referred to the fore part of the head, particularly to the orbits and sockets of the eyes. Sometimes it is transient, at others continuing for many hours, but is seldom or ever permanent. It is usually relieved by taking emetics, food, wine, and stimulants, but is occasionally aggravated by the latter. The dyspeptic symptoms are more urgent; the tongue becomes more loaded, with oppression or pain in the epigastrium, and a feeling of chilliness is frequently experienced over the body. It is likewise attended with the long catalogue of horrors which follow in the train of indigestion, viz. great depression of spirits, transient affections of the external senses, imperfect vision, touch, taste, and even smelling, partial loss of memory, and, it has been stated, of speech likewise (but I presume this is not the case, but that the inability to speak arises from the want of recollection of language at the moment, and not from any paralysis of the organs of voice), flatulence, loss of, or irregularity in, the appetite, constipation and occasional diarrhœa. Whenever headach becomes urgent, and originates in sympathetic irritations in parts of the body distant from the brain, as the stomach, uterus, kidneys, and intestinal canal, it always bears a strict reference to the condition of these organs. When their functions are greatly deranged, the headach is materially aggravated; and when by exercise, diet, and medicine, these organs are restored to health, or greatly relieved, the headach is removed entirely, or occasions little inconvenience.

In conclusion I may just remark, that when disease has existed in the brain or digestive organs for any length of time, from the close and intimate sympathy that subsists between them, it is almost impossible but that permanent morbid impressions should *mutually* result, but particularly to the brain, the more delicate and susceptible organ of the two. To this cause I incline to attribute that tendency to transient plethora in the brain, which may be remarked as subsisting in connexion with urgent and long continued disorder in the digestive system. I presume that, in these cases, the brain and nerves are rendered more susceptible of morbid impression. The arteries of the brain (like those of the face during blushing) sympathize with the state of the digestive organs; and having their irritability diminished, yield to the lateral pressure of their contents; thus producing those transient apoplectic symptoms which have been noticed as frequently accompanying dyspeptic diseases.

The reverse is equally true. Mental agitation, depressing passions, long-continued severe study, all exert an influence equally baneful and powerful on the functions of the secreting viscera. And while symptoms of great severity are manifested in the nervous and vascular systems, in consequence of disorder in the functions of the chylopoietic viscera, so, likewise, urgent morbid symptoms in the viscera are occasioned purely through sympathy with primary disease in the brain, as the appearances on dissection demonstrate, the disease being found in the membranes and the brain, and not in the viscera, although the functions of the latter during life suffered great derangement, and *vice versa.*

Treatment of Headachs—First Class.—In the cure of headachs, every variety of remedy and treatment has at different times been employed, and the same method has been adopted in very opposite states of the disease, and has been attended, as might be expected, with very different results. In attempting to point out the treatment suited to the different kinds of headachs, I shall propose a few observations, in the order in which I have treated its pathological history. The first class, which depends on plethora, the consequence either of a *general* fulness of the system, of increased vascular action through the general system, or in the blood-vessels of the head only, the remedies seem apparent and obvious;—a free use of the lancet, cupping-glasses and leeches, blisters, purgatives, low diet, digitalis, tartar emetic, and antimonial powder in large repeated doses;—Cold applications to the head, setons and issues in the nape of the neck, and the mineral acids, appear sufficiently numerous, and certainly are not an inefficient class of remedies, and, if employed with judicious and persevering vigour, will be ordinarily attended with a successful result. But when the headach depends on plethora in the head, unconnected with any fulness of the general system, or exists in combination with a defect of blood, and likewise of vigour in its circulation in the other parts of the body (particularly the lower extremities, as is indicated by their paleness and coldness), the difficulty of managing matters is greatly enhanced, more especially as respects the permanency of the relief. When the headach is accompanied with throbbing of the carotid and temporal arteries, and some tendency to delirium and convulsive spasm, a small quantity of blood should be taken away by leeches applied to the temples, or by cupping-glasses to the nape of the neck, or by opening the temporal artery. It ought however to be resorted to, only when fears are reasonably entertained for the brain, lest inflammation or effusion should take place; because we thereby tend still farther to disturb the balance of the circulation, by augmenting its languor in the general system and lower extremities, without correcting the local determination, the relief to the head by the detraction of blood being seldom more than temporary. In such cases, during a paroxysm, the following method may be substituted, or at least tried in the first instance:—Let the feet and legs be immersed, and kept for some time in water as hot as can be endured, at the same time let a constant stream of the coldest water be poured on the crown of the head, having a basin held under the chin to receive it, for ten minutes or more, according to its effect. Dr Abercrombie states, that he has seen men in furious delirium, who required four or five persons to restrain them, quickly subdued by this pouring of cold water only on the head. So powerful does he regard it, that in his excellent paper on Inflammation of the Brain, he has, with considerable confidence, proposed it as a remedy in that active and dangerous disease. * It is equally well adapted where the headach is connected with general plethora and increased vascular action. After the use of the pediluvium and cold affusion, should the symptoms still persist, or be only partially removed, I conceive a gentle emetic of ipecacuanha or antimonial wine, would be administered with the best effect,—to effect a more equable circulation, this intention will be promoted if the foot-bath be used at the same time.

A trial of Dr Parry's method may likewise be made, as a temporary expedient, viz. to make pressure on the external carotid. He states that delirium and convulsion subsided, while the pressure was continued. I cannot, however, place so much confidence in this, as in the former remedy, of which I am induced to think very highly, and I do conceive it will be found to be a remedy of great energy in restraining vascular distention

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* Willis has long ago recommended this remedy. "Propterea item est quod capitis embrocatio per antliam intra *thermas calidas* cephalalgicis non meliori cum successu adhibentur, cum e contra *multis utile fuit* tempora, frontem et sinciput quovis mane et vespere frigida perfundere; immo totum caput omni aurora per antliam *aqua frigida* embrocare, aut saltem intra vas profundum aut puteum immergere."—*De Morb. qui ad Anim. Corp. Spect. Cap. II. p.* 150.

and activity in the head; not during the paroxysm of headach only, but at other times, viz. daily, or even more frequently; and thus by increasing the tone of the arteries of the head, become one of the most efficient means of removing the tendency to local plethora in the head. The next remedy is the continued use of small doses of some stimulating purgative, which, by griping and exciting the bowels, occasions a derivation of the blood to the abdominal vicera, thus creating a diversion in favour of the brain. For this purpose, the Barbadoes aloes, the resin of jalap, scammony, the compound extract of colocynth, combined with some aromatic, are appropriate, and a five grain pill should be taken at bedtime, or an hour after dinner, daily.

By presenting a continual stimulus to the stomach and bowels, the energy of the brain from sympathy with these parts is roused, and the arteries of the brain have their irritability increased, and consequently the tendency to accumulation of blood in them diminished. The use of sulphuric and muriatic acids in small doses, in an infusion of cascarilla or cinchona in the morning, has also a beneficial effect in restraining the increased local action of arteries, particularly in the brain. The diet should be light, nutritive, and stimulant, but sparing in quantity; and also the moderate use of wine and porter, when they do not disagree with the stomach. The clothing, particularly of the lower extremities and feet, should be warm; and what is of the greatest consequence to the comfort of the patient, and towards correcting the tendency to congestion in the vessels of the head, is carefully to avoid wetting the feet, or suffering them to remain in damp shoes, or cold any length of time. Errors of this kind will, if persisted in, obstruct or entirely defeat the best directed medical efforts. When organic diseases of the heart or the aorta originate and perpetuate the irregular determination of blood to the head, low diet, blisters over the heart, digitalis, and other remedies appropriate to that individual disease, must be had recourse to.

Second Class.—When the seat of the pain is fixed in the integuments of the skull, particularly the pericranium, the symptoms are generally severe, and occasionally the pain is almost intolerable. The nature of the disease seems clearly to consist in chronic inflammation, followed by effusion of a gelatinous matter, which concretes, and becomes vascular, uniting itself to the pericranium, which is thereby morbidly thickened. This is generally confined to some one part, which, on accurate examination, will be found somewhat elevated. The treatment may be attempted in the first instance by shaving the head and blistering the part repeatedly; if this should not succeed in removing the affection, an ointment, composed of equal parts of strong mercurial and tartarized antimony ointments, may be used, being freely rubbed into the parts till an abundant crop of pustules appear; and when these disappear, if the affection be found still to continue, another inunction may be used; and if no material improvement follow, a free incision must be made down to the skull, and the wound kept open by pledgets of lint to promote suppuration. As this affection, in its chronic form, is frequently connected with disease of the skull, immediately underneath, a careful examination should be made, and the bone, if carious, is to be removed by promoting its exfoliation, as was done by Sir E. Home, by touching the bone with a dilute mineral acid; or its removal may be affected by the saw, as thus an opportunity will be afforded of examining the state of the dura matter, which in the severe cases, it will be remarked, was found covered with purulent and sanious matter; for the removal of which, a free opening will be thus made, without which, it were impossible to look for the removal of the bad symptoms which attend these affections. This treatment is adopted to the chronic form of the disease, in which it commonly comes under the observation of medical men. In its active form, general and large blood-letting, active purging, leeches and cupping, are appropriate, or incision down to the bone, afterwards promoting suppuration by lint and other stimulants.

With respect to the management of the excrescences of the skull, more difficulty presents itself. The removal of tumours and excrescences is a bold measure, and an experiment which few practitioners would be disposed to hazard, and to which still fewer patients would be found to submit; yet, when so situated, that danger from wounding any of the sinusses, or large vessels of the dura mater, is *not* to be apprehended, and when the symptoms are so urgent, that life is become a burden, their removal is not an unjustifiable experiment. The case I have related from Dr Sporing of Sweden, the removal of the bony tumour, near the orbit of the eye, by caustic applications, was followed by exfoliation and complete relief of the distressing symptoms. When the headachs arise from tumours which are of a venereal character, and well founded suspicion exists that the virus is not entirely destroyed, I have found very minute quantities of the oxymuriate of mercury, in decoctions of sarsaparilla and tincture of guaicum, with the hot bath twice a week, the most effectual remedies, far preferable to a severe long continued salivation, which is commonly resorted to in similar circumstances; the constitution, which is mostly, in those circumstances, very much debilitated, and permanently injured, bears salivation very ill; sometimes, however, it may be indispensable.

We are now come to the treatment of a very hopeless class of affections, viz. the headachs which depend on permanent morbid alterations of structure in the brain and membranes. Their removal is placed beyond the reach of the surgeon's knife, and, I fear, beyond the skill of the physician, and, with one or two exceptions, admits only of palliation. This consists in light and spare diet, avoiding all intoxicating liquors, agitation of mind, passion, and quick exercise, with occasional detraction of blood, proportioned in quantity to the severity of the symptoms, mild unirritating purgatives, as castor-oil and neutral salts, setons or issues in the neck, digitalis, and small doses of tartarized antimony, and of muriatic or sulphuric acids, when any tonic is requisite on account of the irritability which so frequently distresses the stomach in these affections.

When the pain in the head is suspected to be owing to effusion between the membranes, or into the ventricles of the brain, perhaps some hopes of relief may be afforded by a gentle salivation, or mercurializing of the system, accompanied with the use of active diuretics. The following form I have found a convenient and efficient mode of administering these medicines: Equal parts of calomel, digitalis, squills, and ginger, a grain of each to form a pill, and one or more may be taken according to the effect produced, which will be found greatly enhanced if followed by a diuretic draught. A derivation will thus be made from the head, and a truce afforded to the exhalents of the brain, affording at least an interval for the fluid already effused to be absorbed; a process, however, there is reason to believe, that takes place very slowly. This, with blisters and caustic issues to the neck, is perhaps the most appropriate treatment.

Third Class.—The treatment of those headachs which arise from sympathy with other parts of the body, is to be directed, not to the head itself, although the seat of the pain, but primarily to the stomach, intestines, liver, spleen, or other viscus which may be the source of the affection. It is not, however, to be inferred from this, that no disease of the brain and nerves exists; on the contrary, there is reason to think, that where bilious and nervous headachs have continued for *any considerable time*, those parts become more delicate, and endowed with a share of sensibility that is truly *morbid*, and hence are affected by causes which, in circumstances of sound health, could not have exerted any injurious influence. To this circumstance we are to attribute the duration and obstinacy of some of these affections, even when the exciting causes are removed; and hence *long courses* of medicines, and continued attention to diet, &c. become necessary; sometimes even through the whole of life.

When worms in the intestinal canal are the causes whence the headach originates (which may be generally known by the headach being constantly accompanied with itching in the nose and rectum, and fixed pains at the epigastrium, and indeed through the whole course of the intestines), the remedies which alone will be found to relieve the headach, will be those which either destroy or remove those animals. The most powerful and only effectual vermifuge which I have employed, has been the rectified oil of turpentine, followed by aloes, rhubarb, and calomel. I have given these medicines to children in pretty considerable doses, viz. as half an ounce, and even 6 drachms, to a strong boy of five years old, without any violent operation; although followed by the removal of the worms. Calomel, rhubarb, and aloes, I prefer for young children, and generally find them (when combined) efficient. A pint of water saturated with common salt, Dr Heberden states he has found of singular efficacy in expelling worms from the intestines.

A very large, perhaps the greater proportion, however, of headachs, arise from disordered function of the chylopoietic viscera. Some of these are accompanied with very severe symptoms, such as at first might well create suspicion that disease exists in the head, when, however, we are satisfied that disorder in the viscera is the source of the affection. The treatment, in the first instance, will be commenced by a complete evacuation of the whole intestinal canal, by gentle repeated antimonial emetics, and by mild continued purgation. For this purpose, jalap, the Barbadoes aloes, and soap, with aromatic confection, or other stimulant, forms as good a purgative as any for continued use. The compound extract of colocynth, or scammony, with calomel, where a more active one is required, will be found to answer admirably well. In many constitutions, however, 2 or 3 drachms of infusion of senna, or of Epsom or Rochelle salts, taken every morning for a week or fortnight, is found to answer the intention of more effectually evacuating the bowels than the resinous and stimulating purgatives. If, after plentiful evacuations have been procured (and the mucus which is apt to accumulate is removed), the stools should not present a natural appearance, but be gelatinous, or of a pale clay colour, with little fetor, or be dark and offensive, small doses of calomel should be taken every night, or, in very delicate subjects, every other night, to the extent of a grain, with gr. ¼ of tartar emetic, by which its operation is greatly improved, especially when the stools are dark and peculiarly offensive, in which case we may suspect some disposition to inflammatory action in the mucous membrane of the intestines.* This should be followed the succeeding day by infusions of senna or Epsom salts, largely diluted in cold or hot water, as is found most agreeable to the patient. The Cheltenham waters, however, are preferable, if they can be obtained, to be used in combination with the calomel.

This treatment, persisted in for some time, will be found to operate a great change in the biliary and other secretions, as will be evident from the nature and appearance of the stools, which will assume the natural yellow or brownish colour; if it should not, larger doses of calomel and tartarized antimony must be given, with opiates and tonics, after the manner adopted by Dr A. Wilson. Another, and very common condition of the abdominal viscera, inducing weakness and irritability, occasioned by a defect in *quantity* rather than morbid quality of the secretions, and particularly of the bile, occasioning constipation, and a long train of symptoms. This is a fertile source of the headachs with which females are troubled, who, in their menstruation, are regular enough; and it is one not easily removed. I believe the most effectual is regular exercise in the open air, long continued, but not so violent as to induce sweating, because this defeats the intention, by determining the blood to the skin, and from the abdominal viscera. Horse exercise is also peculiarly useful in these cases, as likewise well ripened fruits, solid animal food, roasted in preference to boiled; and when the stomach bears it, which it generally will, at least after a little use, the strong London *porter*; when this will not do, Madeira, pure or diluted, with hot water and spice, as is found most grateful to the stomach. The diet should be nutritive and abundant, but over-repletion must be carefully guarded against, as likewise the use of pastry, which, with vegetables, unless well boiled, should be strictly forbidden, and even then sparingly used, as they cause the food to be detained an undue length of time in the stomach, where other changes besides those of digestion go on. I suspect occasionally a fermentive process commences; and hence the generation of so much gas and acidity in the stomach and bowels, giving rise to those distressing nervous affections, such as partial blindness, loss of sensation, &c. followed, as they always are, by pains in the head of a most pungent kind. This class of headachs, arising from indolent action of the bowels, is a very large one, and it is that which receives no relief from the use of mercurial medicines. The blue pill, and small doses of calomel, I think aggravate, rather than alleviate the symptoms in these cases, being so slow in their operation and debilitating in its effects. The following pill in these cases, taken early in the morning, or an hour after dinner, will be found extremely useful. Barbadoes aloes, carbonate of iron, soap, and confection, one grain of each united into a mass.

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* The application of leeches to the anus, a practice that has long been adopted on the Continent, in the treatment of chronic visceral affections, would, I incline to think, afford considerable assistance in treating this form of gastric disease, and, by including the hæmorrhoidal vessels, more readily and effectually relieve any chronic inflammatory action of the mucous membranes of the viscera, or abdominal congestions.

Though headach, which is connected with acidity and pain of stomach, will derive relief from the use of tincture of opium with calcined magnesia, or the *liquor potassæ*, in mint or cinnamon water, or the common soda water. These remedies, it will be perceived, are however only adapted for temporary relief, which in most cases will be found very considerable. More permanent relief must be looked for from the judicious regulation of the diet and drink, both as respects the quantity and quality, from regular exercise in the open air, agreeable occupations and amusements, avoiding too long, continued, and intense study, dissipation and late hours; and perhaps the use of the following tincture may be found to contribute to the restoration of the health of body, and also of the mind, where there is a tendency to low spirits and flatulence. Of cinchona and cascarilla bark, powdered, 2 oz. each infused in lb. iv. of white wine; to this add two or three ounces of the compound tincture of lavender; of this a table-spoonful or two should be taken twice a day; before breakfast, and in the evening before tea. I need not add, that many other remedies have been employed with great success in the cure of headach, arising from the irritability and debility of the stomach and bowels. Amongst these, solid opium taken internally, and applied externally in form of tincture, with camphorated spirit of wine to the temples, has afforded great and permanent relief, when other remedies have totally failed. This medicine alone, but particularly in combination with calomel and guaiac, has afforded great relief in gouty and rheumatic headachs, especially if aided by caustic issues in the neck, and repeated blisters. By these means I once succeeded in removing a very obstinate hemicrania, and likewise in the same lady, a painful nervous affection of the face on a former occasion.

But in order to render these medical and peptic precepts efficient, it requires patience and perseverance, as well on the part of the patient, who is the unhappy subject of the malady, as of the physician who has the task of treating it. The remark of Montanus on the treatment of hypochondriac affections, applies with nearly equal force to headach. "In curatione morbi non licet præfinere tempus mensis unius aut anni, sicut in aliis contingat, sed oportet in toto vitæ suæ tempore curationi operam dare, interdum curationi, interdum preservationi attendendo;" * and a calamity which cannot be removed may thus oftentimes admit of alleviation.

Haverfordwest, May 26th 1823.

III.

Cases by W. Henchman Crowfoot, *Surgeon, Beccles.*

A Case of Wounded Brain.

Mr Meen, a farmer in this neighbourhood, was wounded in the head by the breach-pin of his gun, which was blown out in the discharge of the piece. The breach-pin was driven through the hat, and piercing the os frontis, a little to the left of the spinous ridge of that bone, and about an inch and half above the edge of the orbit, entered the brain to a considerable depth, carrying before it a circular piece of the hat, and several splintered pieces of bone.

The young man was knocked down and stunned by the blow, but he soon recovered sufficiently to walk, with but little assistance, to the nearest house, from whence he was conveyed, in a cart, to his own residence, a distance of two miles.

I found him sitting up in his chair, and able to converse on the subject of his accident. The breach-pin had been withdrawn from the skull by the removal of the hat; and as there appeared to be no bleeding, a piece of sticking-plaster was laid over the wound, to exclude the air, whilst a messenger was sent for my instruments. In about ten minutes the patient was siezed with a distinctly marked fit of epilepsy, which ceased immediately on the removal of the plaster, under which a little oozing of blood had taken place, the slight pressure of which had thus disturbed the functions of the brain, whilst the severe injury it had sustained from the accident, had been productive of but little immediate inconvenience.

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* Montani Consil.

On raising a sufficient portion of the integuments, by a crucial incision, it was found that the opening through the os frontis was so large, and that the fractured bone was divided into so many pieces, as to render the use of the trephine unnecessary. At the depth of about an inch in the brain, a hard substance was felt at the end of the probe, which, on extraction, proved to be a circular piece of hat, of the shape and size of the end of the breach-pin. Several angular pieces of bone were then carefully removed, some of them of considerable size; and as they were completely buried in the brain, some portions of that organ were necessarily brought away with them. After the removal of every foreign body, the integuments were laid down, the wound was dressed superficially, the patient was freely bled, some aperient medicine was given, and he was put on the most abstemious regimen. On every increase of pain or fever, the bleeding was repeated, with uniform relief, the bowels were kept freely open, and water-gruel formed his only diet. Under this treatment the recovery was scarcely interrupted by one untoward symptom. The jagged surface of the brain was gradually thrown off in an offensive discharge, the loss of substance was slowly restored, and there was not the slightest disposition to the production of fungus.

The patient perfectly recovered; but he has since had two or three epileptic attacks, to which he had never before been subject.

Extirpation of a large Tumour from behind and over the Left Angle of the Jaw.

Edmund Saunders, thirty-seven years of age, consulted me on account of a large and very firm tumour, which extended from near the angle of the mouth to the mastoid process, dipping deeply behind the angle of the jaw, and from the zygomatic arch, to some distance below the under jaw. It commenced about fourteen years before, and was, he believed, the consequence of a blow; it began behind the angle of the jaw, but gradually extended over it; at first it advanced slowly, but within the last year it had made a more rapid progress in all directions; it was irregular in its surface, and appeared to have somewhat accommodated itself to the form and motion of the parts it covered, and to which its attachments were very close and strong; it was but slightly moveable, but still sufficiently so to induce me to believe that the parotid gland was not materially implicated, any more than the large vessels and the nerves of the neck.

Several surgeons to whom the man had previously applied, had dissuaded him from any operation, considering the tumour, from its situation and attachments, as not removeable; but, having had my own opinion to the contrary confirmed by that of my friend Mr Dalrymple of Norwich, I did not hesitate to admit him as an in-door patient, at the Beccles Dispensary, and on the 27th of December last, to dissect out the tumour, in the presence, and with the able assistance of my colleague, Mr Davy, and of his son, Mr H. Davy, surgeon, of Yarmouth. The operation was a successful, but rather a formidable one; for the tumour was so closely and so strongly attached to the buccinator and masseter muscles, to the ligaments of the jaw, to the mastoid process, to the sterno-mastoid muscle, to the parotid gland, and indeed to all the subjacent parts, that it could be only separated from them by the edge of the scalpel, and by a very cautious dissection.

The tumour was largely supplied with blood-vessels; several of considerable size were divided during the operation; but the bleeding was restrained by the pressure of the fingers of an assistant, till the dissection was completed. The parotid duct was exposed for nearly its whole extent, but was preserved from injury. I had cause to regret the not having secured the vessels as they were divided; for although the wound was not dressed for a quarter of an hour, to guard against bleeding, I was obliged again to open it, and to take up two arteries, from which a rather profuse hæmorrhage had taken place, after the patient had been put to bed.

The tumour consisted of a very dense cyst, containing a certain proportion of a thick bloody fluid, and a much larger one, of a brain-like substance, resembling that which Mr Abernethy describes as medullary sarcoma.

From the contents of the cyst, there seems reason to suppose that the tumour would have ultimately taken on a malignant character; but, as the cyst was removed entire, the surrounding parts appeared free from disease, and the wound readily healed. I trust the poor fellow will suffer no further inconvenience.

In the first instance, I was inclined to believe the tumour to have been very similar to those mentioned in the late Mr Burns's invaluable work, on the Surgical Anatomy of the Head and Neck, as having been removed by Sir Astley Cooper, with the exception of its being much larger; it, however, differed materially from them in the strength and closeness of its attachments, in the contents of its cyst, and in its much greater vascularity.

A few weeks since, my friend Mr Davy removed from the fore-part of the leg of a patient at the Dispensary, a little below the knee, a cyst which contained a globular cartilage, about the size of a walnut, but which was quite unconnected with the bone; the cartilage was apparently connected with its cyst by innumerable small vessels, by which it was probably secreted; it was a perfectly homogeneous substance, and its mode of growth seemed very obscure.

A Case of Lithotomy on a Distorted Pelvis.

About four years since, I had occasion to cut a man for the stone, when an unusual difficulty presented itself in a distorted state of his pelvis. The patient, John Ives, a stout man, 53 years of age, had been ricketty when a boy; in consequence of which, his pelvis had become so deformed that the tuberosities of the ischia were not more than from an inch and a half to two inches asunder, as nearly as I could ascertain. There was every reason to believe that the stone was a small one, or it would not perhaps have been justifiable to have attempted to extract it by the lateral operation. I used the knife only for the incisions, and the blunt gorget as a director for the forceps. A lithic acid calculus was extracted, weighing 86 grains.

Much has of late been said against the use of the cutting gorget; in this case it could not have been used without great danger of wounding the pudic artery; but I am disposed to believe, in general, that much more depends upon the adroitness of the operator, and upon the gentleness with which the stone is withdrawn from the bladder, than upon the nature of the instruments employed.

IV.

On Amputation. By Andrew Dewar, Surgeon, Dunfermline.

My design, in the present paper, is to make a few cursory observations on the comparative merits of amputation by the circular incision, and by the flap.

There are, I conceive, three principal objects, which the operator has in view in the operation of amputation,—to remove the limb with all possible celerity,—to procure union by the first intention,—and to fashion the integuments in such a manner that a good stump may ultimately be formed.

There is certainly some extravagance in the outcry which has been made about the *time* in which operations are performed, as if, forsooth, we are to estimate the merit of an operator by the number of seconds which he occupies in disposing of his operations. The air of consequence, too, and tone of authority, which have been assumed upon this subject, have excited a prejudice, with a considerable proportion of the profession, against all who talk of *time* as being of any essential consequence to the success of an operation. No prejudice can be more unfounded; for although we should make no account of the mental suffering which the patient must undergo, yet the lengthened torture, to which an individual, already exhausted by illness, has to be subjected, is not merely revolting to every feeling of humanity, but must directly diminish the chance of recovery, in nearly an exact proportion to the length of time which is occupied by the operation. There are instances, and these not few, in which patients have sunk under the shock of a tedious and painful dissection; and I have myself seen more than one case, in which the fatal result was fairly to be attributed to the re-action produced by a protracted operation. On the other hand, operations are tedious, in a great proportion of instances, only from mismanagement; and patients always recover most speedily, (every thing else being equal), who are the shortest time under the knife of the operator.

Union by the first intention is the wish, I believe, of *almost all operators*, and has justly been regarded as a principal ground of recommendation, in all the modifications of this operation which have been introduced to public notice. I have said *almost all operators*, for it would appear that some of the Continental surgeons introduce pieces of lint between the lips of the wound. But in this country, both our modes of operation and our dressings, are intended to effect the very desirable object of uniting the wound by the first intention.

To the formation of a good stump, all other means ought to be subservient; for if the patient merely recovers, it matters comparatively little whether the operation was dexterously or awkwardly performed,—whether the wound healed by the first intention, or by suppuration, provided he has a good stump, *i. e.* a stump in which the bone is covered by a thick mass of muscle and integument. It is upon such a stump that a great portion of the comfort of his future life depends, at least in as far as regards the repairing the consequence of his misfortune, by the adaptation of an artificial leg.

The operation by the circular, or triple incision, as generally performed, consists in dividing the integuments, down to the fascia, by a circular sweep of the amputating knife,—in dissecting back the skin and cellular substance, more or less, according to the size of the limb,—in cutting the muscles to the bone, while the integuments which have been dissected back, are folded up by an assistant,—in separating the periosteum and fleshy fibres which adhere to the bone, and retracting the soft parts in such a manner as to allow the saw to be applied as high as possible. When the limb has been removed, and the soft parts drawn down, we have a stump composed of a portion of loose integuments, overhanging a mass of muscular substance, which presents a rough and uneven surface, partly on a level with, and partly retracted higher, than the bone. The soft parts are now placed in contact, and present, certainly, very accurate and even edges, and when retained by stitches, or adhesive plaster, would seem to promise a ready union.

I may here inquire, how far this operation is fitted to fulfil the objects which I have stated the operator ought to have in view. If we recollect the steps of the operation—the circular incision—the dissecting back of the integuments—the folding up of the skin—the deep incision through the muscles—the separating of the periosteum and fleshy fibres which adhere to it—and the sawing of the bone, we must be satisfied that a considerable time will be occupied in the performance. In the instances in which I have amputated in this manner, I confess I have been always dissatisfied with the operation; nor have I ever seen it performed by my friends, nor indeed by any one, in a manner with which I was altogether pleased. It is never a neat operation, nor can it be a humane one, (if I may so speak), for the length of time which it occupies, and the repeated cuttings, must make it intolerably painful.

I think there is also a frequent disappointment in the healing of the wound. The necessary effect of the operation is to destroy the natural arrangement of the parts which are to form the stump; the skin, dissected off from its connections, is brought over the ragged ends of the muscles, and experience confirms, what we would *a priori* expect, that these parts are not in a condition well fitted for immediate union. The skin too, before the stump is dressed, has a blanched and lifeless appearance, and is indeed in such a state of diminished vitality, as to be, for a time, incapable of the functions of active health. To whatever causes we may attribute it, we find, as matter of fact, that union by the first intention is a rare occurrence after amputation by circular incision. Indeed the condition of the wound.

ed parts, after dressing, renders suppuration, to a less or greater extent, almost a necessary consequence; for no device in dressing can retain, in very exact contact, the loose portions of skin which hang down at the corners of the wound, and they form excellent receptacles, ready made, for the formation and retention of matter.

The most important question however remains, viz. How far is a good stump likely to be formed by this mode of amputation? I suppose it will readily be admitted, that a good stump cannot be formed unless a considerable portion of muscular substance can be saved to cover the bone. We cannot retract the soft parts so effectually, as to make it possible to saw the bone much higher than the edge of the wounded muscles; indeed, it will generally be found, that before the wound is dressed the muscles have retracted themselves to a level with the extremity of the bone; the more superficial ones perhaps higher. It is still possible, however, by pressure and tight bandaging, to bring down the muscles over the bone; but this degree of pressure cannot long be borne; and, in a great majority of cases, long before the cure is effected, the muscles have retracted to at least a level with the bone.

There are very few cases of amputation by circular incision, which terminate more favourably than I have now stated. When suppuration takes place to any considerable extent, the case becomes materially worse. The muscles, separated from their natural connections by the operation, and not having as yet contracted new adhesions, continue to retract, until, when the wound is healed, we have a stump of a conical shape, the apex of which is formed by the bone, merely covered by their integuments. How very ill fitted such a stump is to bear pressure, it is unnecessary to state.

That the want of muscular substance to cover the bone has been generally experienced by surgeons, is satisfactorily proved by the various means which have been suggested to remedy the deficiency. It has been proposed to increase the quantity of muscle in the stump, by giving an oblique direction upwards to the edge of the knife in dividing the soft parts. It has been also proposed to cut the muscles layer by layer (as if there were regular layers), and allow the more superficial to retract, before the deeper-seated were divided. Of these plans, however, I do not intend to speak; for although they may perhaps be practicable in the hands of the more gifted of the profession, they are altogether inapplicable to ordinary practice. Nor is it likely that the operation practised by the illustrious Baron Dupuytren (it has the recommendation of simplicity) will soon be adopted in this country, viz. cutting down at once to the bone by a single circular incision.

I have now to consider the operation of amputation by the flap: But before doing so, I cannot refrain from expressing my obligations to Mr Syme, for his very able paper on Amputation, in the Edinburgh Medical and Surgical Journal for January 1824. Mr Syme lays no claim to novelty or originality, but he has the merit of having recommended, forcibly and perspicuously, an operation which has been frequently described, but seldom practised; and which, so far as I am entitled to judge from a very limited experience, infinitely surpasses, in all important particulars, the usual method by circular incision. Though I was perfectly familiar with the description of amputation by the flap, as given by surgical authors, yet the facts were never so strongly impressed upon my mind, as to induce me to practise it, until I read the paper to which I have now alluded.

Different modes of performing this operation have been described. Mr Lizars directs it to be done in the following manner: "The patient being placed on a table, with the leg hanging over, and supported by an assistant, and the roller or pad, with the screw of the tourniquet, placed over the artery, and sufficiently tight to compress the circulation; and the skin being retracted by an assistant, two semielleptical incisions are to be made with a large scalpel through the skin and contiguous muscles, from the patellar to the popliteal aspect, as deep as possible, with their convexities large, and pointing distad, and their extremities meeting patellad and poplitead. A repetition of each incision, boldly made, enables the operator to reach the bone, which is to be cleaned of the adhering muscular fibre; the flaps are then retracted, and the bone sawn, by long gentle sweeps of the saw," &c. *

I have practised the operation after this fashion: The patient is laid in the usual posture; one assistant supports the limb, while another compresses, with his thumb, the femoral artery, as it passes out of the pelvis. The operator grasps the whole of the flesh on the outside of the thigh with his left hand, and transfixes it close by the bone with his long knife, and cuts his way out, leaving a flap of the length which he judges to be necessary: the remaining half of the thigh is cut in the same way, from within outwards, into another flap: the knife is then passed round the bone, to divide any muscular

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* Lizars's Description of Anatomical Plates, Part VI.

fibres which may adhere to it: the flaps are held asunder, and the bone is sawn.

Such is the operation. I may now inquire, how far it is calculated to fulfil the intentions of the operator.

This operation is at once simple in the execution, and can be performed in the shortest possible time. It does not occupy, even in the hands of a surgeon possessed of the most ordinary share of dexterity, more than a single minute. It requires, indeed, but a very moderate portion of expertness to do it in half that time.

The wound consists of two flaps of equal size and length, and when placed in contact, and retained by stitches or plasters, in a condition very favourable to union. The parts which compose the stump all retain their natural relations to one another; the vitality of the skin is in no degree impaired, as its connexion with the muscles, which it covers, is not at all disturbed; tissues similar in structure and function are brought into contact when the wound is closed, and union by the first intention is not merely a probable, but a general recurrence.

The flaps ought to be made of such a length as to cover the bone, and be brought easily together, without the necessity of any pressure being used. For this purpose, they should be made longer than a surgeon who has never performed the operation would at first sight think necessary. Before the wound is closed, it consists of two long and thick masses of flesh, hanging down over the extremity of the bone; but when the wound is dressed, the bone is hid under a thick covering of flesh—muscle meets with muscle—skin with skin—there is no folding or puckering—every part comes into neat and accurate contact. After retraction, too, has taken place to the uttermost, and the wound is finally united, the bone can be felt thickly covered by a firm cushion of skin and flesh; and a stump is thus formed, admirably adapted to bear the resistance of a wooden leg.

Four patients requiring amputation presented themselves to me during the last three months; and as on all of them the flap-operation was performed, I take the liberty of stating the results.

Case I.—A little girl, 6 years of age, was run down by a waggon, and had the elbow-joint, the lower part of the humerus, and the soft parts, all crushed to pieces by the wheel. I amputated the arm in the manner I have described above; cut off both ends of the ligatures close by the arteries; brought the integuments together by four stitches, and retained them in contact by a bandage. The wound was dressed on the second, and on every subsequent day, until the eighth, when it was entirely healed. She was at play on the fourth day. I was extremely gratified with the appearance of the stump; it was far more satisfactory than I had ever previously succeeded in forming.

Case II.—The next case which occurred was that a of a girl, nine years of age, who had suffered for about five years from necrosis of the bones of the fore-arm. The elbow-joint had become anchylosed, and the lower half of the humerus affected by the extension of the disease. Her health was failing rapidly. I amputated her arm in the manner described; secured the arteries in the usual way, but left one end of the ligature; united the flaps by four stitches; kept the sides of the wound in contact with a bandage, which was brought down and fastened without touching the wound. There was then pinned on each side of the arm a piece of cloth, torn into slips; a compress was placed over each flap, in such a way as to make it accurately to meet with its fellow, and yet not retain the discharge; and over these the ends of the cloth were knotted, and the pressure increased or diminished at pleasure. The compresses and split-cloths were changed daily, until the thirteenth from the operation, when the wound was entirely healed. The stump was an excellent one.

Case III.—A lad, 17 years of age, had suffered for nine years in consequence of a necrosis of the thigh-bone. He was very much exhausted by the severe pain, and profuse discharge of matter. This lad's leg was amputated by Mr Syme at my request, on the same day with the arm of the girl whose case was last related; and I was much gratified in witnessing the neatness and propriety with which he executed it. It would have been impossible to have applied a tourniquet in this case, for the bone was sawn immediately under the trochanters. The operation was performed exactly, I believe, as I have described it. The dressing was after the manner stated in case second, in which also it was used at the suggestion of Mr Syme. (See the plan of treating incised wounds, proposed by him in the LXXXIVth Number of this Journal). The wound was dressed every day until the fourteenth, when it was quite healed. The stump is firm and fleshy, and the bone thickly covered by soft parts.

These two patients were walking out of doors, without any restraint, on the third week from the operation.

The next case is an important one, as it proves, I conceive, as far as one case can, the superiority of amputation by the flap, over that by circular incision, in circumstances in which, by the latter operation, a good stump is rarely, if ever, formed, viz.

when, from any cause, the wound does not unite by the first intention.

Case IV.—A lad, aged 16, had long suffered from necrosis of the tibia. He was wasted to a shadow. I amputated above the knee, by the double flap. Three arteries were tied. A fourth, which bled, but seemed small, I drew out with the forceps, as I had often done before, in the hope that, after being elongated, it would retract, and prevent all farther bleeding. The wound was closed by six stitches, and the stump dressed as described in a former case. He complained of no pain after the operation, but he was somewhat restless, and there was an oozing of a bloody serum from the wound for the first five days; the stump was not at all distended, and there was no unusual pain on handling it. On the morning of the sixth day, as there was still a considerable discharge of bloody fluid, I cut out three of the stitches, and found, on separating the integuments, the wound filled with clotted blood. I took out a considerable quantity on that and the two following days, when the stump became perfectly clean, and discharged wholesome matter. He returned home (four miles into the country) on the eighteenth day, perfectly cured. No one could possibly conjecture, from the appearance of the stump, that any untoward circumstance had occurred during the cure. There is no retraction of the soft parts, nor protrusion of the bone. The stump is round and plump, and the bone deeply sunk under a mass of muscle and integument.

It would have been easy to have stated two or three cases of amputation by circular incision, by way of illustration or comparison; but as with these every surgeon is familiar, I consider it to be altogether unnecessary.

The statements and facts which I have now brought forward, may be summed up in the following positions:

1*st*, Amputation, by circular incision, is an operation complicated and tedious in the performance; by the flap, it is simple, and can be performed with great celerity.

2*d*, The wound, in the operation by the flap, is, from its nature, better fitted for union by the first intention, than that which is produced by the circular incision; and, upon trial, this is found to be case.

3*d*, A good stump is both a more probable and a more common occurrence, by the flap operation, than by the circular incision.

Dunfermline, July 15*th*, 1825.

V.

Case in which the Operation for Artificial Anus was successfully performed. By Richard Martland, M. D., Physician to the Blackburn General Dispensary.

Henry Baron, æt. 44, a book-keeper at Hyde near Manchester, requested my attendance on the 18th of July 1824. He was a very stout man, and had enjoyed very good health until three or four months previously, during which time he had been affected with severe pain in the bowels, extending from the umbilicus to the lower part of the belly. Great difficulty was experienced in passing his stools, and they were observed to be compressed. On the 29th of June, being unable to procure an evacuation by the bowels, and the tormina and tenesmus being very severe, he applied for medical advice. Powerful cathartics were administered, and had the desired effect of causing three or four liquid motions, which gave considerable, though temporary relief. On the 3d of July the tenesmus having returned with aggravated violence, opening medicines were repeated and glysters used, without any other effect than occasioning great uneasiness in the bowels, accompanied by sickness. On the 4th he was attacked by hiccup, which lasted three days; in other respects he was easier. From this time he used the most drastic purges and the most stimulating glysters. Eight drops of croton oil were given at a dose, and six oz. of spirit of turpentine administered as an enema. Both cold and warm baths were tried. His belly now enlarged considerably, and made a very loud rumbling noise, particularly on pressure, which was however unattended with pain. His pulse ranged between 80 and 90; there was no disturbance in the urinary functions. Besides cathartics, he had occasionally taken saline medicines, and had abstained as much as possible from food, being impressed with the idea, that if he indulged his appetite, he should add to his disease.

Under these circumstances, he travelled thirty miles by coach without inconvenience. My first visit was on the day after, when I found him sitting up; pulse 90, and firm; little thirst; tongue moist, but rather white; belly tumid; no pain on pressure; borborygmi. Had slept tolerably well the preceding night, but was excessively anxious about his recovery. On examination *per anum*, a large tumour was felt projecting as it were from the neck of the bladder; and in the centre of it, or rather nearer the sacrum, was distinguished a small fissure or orifice like the os tincæ, more posteriorly still. The gut formed a cul-de-sac, as was evident from the flexible instruments, if forced in that direction, recoiling on themselves. Bougies of various sizes were tried, but could not pass the stricture. He took a drachm of calomel in divided doses; and some other powerful cathartics, without any good effect.

On the 19th, for my convenience he was removed to Blackburn, a distance of six miles, and felt much fatigued with the journey. He was ordered a saline mixture in the state of effervescence, which quenched his thirst and seemed to refresh him.

20th.—Mr Barlow visited him at my request, and we attempted to pass a flexible metallic bougie, but could not succeed. He used the warm bath, had warm water propelled up the rectum several times by a powerful syringe, without being at all relieved.

21st.—Belly much distended and more uneasy; borborygmi less troublesome. Pulse 90; very little fever; appetite tolerably good. The injections of warm water were continued, as also the saline mixture, by which he was much refreshed. An infusion of tobacco (two scruples to half a pound of water) was injected in the evening. Three ounces only were retained for three or four minutes; it had no effect.

22d.—He was visited by two medical friends, Messrs Bailey and Cort, and bougies of various kinds were again ineffectually employed, which gave him considerable uneasiness. He passed, however, a tolerable night, but on the morning of the 23d he had more fever; pulse 96; belly exceedingly distended, and hard, yet neither sickness, nor pain on pressure.

He was now informed, the only chance for saving his life was by making an artificial anus; the danger attendant on, and the inconveniences resulting from such operation, were candidly pointed out to him. After a few hours consideration, he consented to it, but wished it to be deferred till the following morning.

24th 9. *a. m.*—Fever considerably increased; pulse 105; tongue foul. Has spent a very restless night; belly enormously distended, and when struck, giving the tympanitic sound; very little pain; spirits very low.

In the presence of Messrs Barlow, Bailey, Cort, and some other surgeons, I made an incision in the left iliac region, beginning about an inch above, and on the inside of the anterior superior spinous process of the ileum, and extending it obliquely downwards and inwards for nearly four inches. The external and internal oblique and transversalis muscles were next divided the length of the external wound, and the peritoneum laid bare. This membrane was then cautiously opened by a bistoury, to the extent of between two and three inches, when the colon presented, and was easily known by its longitudinal bands: it was fastened to each end of the wound by a suture. An opening was now made into it an inch and a half in length, and instantly a large quantity of liquid feces and wind escaped with considerable force. The advantage of securing the gut before opening it was very observable, as, from defect of power in the abdominal muscles, occasioned by over-distention, it would probably have receded, and some of the contents have escaped into the cavity of the abdomen, thus laying the foundation for very extensive inflammation. Two other ligatures were passed, as soon as possible, between the cut edges of the colon and the sides of the external wound, at the upper angle of which there was a protrusion of the omentum; this was very troublesome, until reduced, and that part of the wound drawn together by a suture. The protrusion was owing to the great length of the external incision, which in this muscular man should not have exceeded two inches and a half. We attempted to pass an elastic, œsophagus, tube downwards, but could not succeed. The wound was covered with lint and a light compress.

Cont. mist. salin. efferv.

10, *p. m.*—Has felt considerably relieved by the operation, and slept a little in the afternoon. From five to six quarts of liquid feces, a few scybalæ, of the size of marbles, and much flatus, have been discharged by the wound since morning. Fever higher; pulse 110, and full; skin hot and dry; tongue furred, but rather moist; thirst urgent; no sickness; slight headach; distention of the abdomen removed; no pain on pressure, except in the vicinity of the wound, which is inflamed for two or three inches round the edges. Has frequently taken thin gruel.

Cont. mist. salin. efferv. Vulneri applic. paul. ung. simp.

25th.—9, *a. m.*—Slept about an hour during the night, and feels comfortable; a quart of feces has been evacuated; no scybalæ; fancied he could have a motion by the natural anus, but was disappointed. This morning a large quantity of brown mucus escaped and irritated the wound, which looks brown at the edges, and shows a disposition to slough. The tenderness round it does not exceed three inches; belly quite flaccid, and of the natural size; pulse 96, and softer; thirst less urgent; tongue cleaner and moist; skin bedewed with a gentle perspiration; pain in the head quite gone; spirits good. The wound has been frequently syringed with warm water, which is to be continued.

Cont. mist. salin. et ung.

9, *p. m.*—Brown mucus, with a small quantity of feces, continue to be discharged. Pulse 100, and fuller; other febrile symptoms diminishing.

Cont. mist. et ung.

Vulneri. applic. cataplasm. pulv. sem. lin. et sæpe renovetur.

26th.—The poultice could not remain long on, owing to the discharge of feces and mucus from the wound, which continued all night. Slept a little; wound tolerably easy, but rather more inflamed, and tender at the upper end; was frequently syringed.

Cont. omnia, sed adde liq. plumb. acet. drachmam ad ung. simp. ℥iss.

27th.—Good night. The upper angle of the wound less inflamed and less tender; sloughing process of the edges going on; discharge much diminished, and scarcely any feces mixed with the mucus; pulse 96; tongue moist, but covered with a brown fur near its root; skin moist; no thirst; urine natural.

Capt. ol. ricini ℥iss. statim, et repet. omni bihorio donec responderit alvus.

Cont. alia.

28th.—After one dose of castor oil, a pound and a half of excrementitious matter, of a better appearance, was expelled; was moved to have the bed eased, and slept only three hours during the night; sloughing proceeds slowly; one ligature has come away, and the intestine has firmly adhered to the neighbouring parts; mucous coat very vascular, but not tender; wound is frequently washed by the syringe; pulse 90; fever less; appetite improving.

Cont. mist. ung. et cataplasm.

30th.—Slough from the edges of the wound separating; feces of a natural appearance; are regularly voided from the wound; pulse 78; no fever.

Omit. mist.

Cont. ung. et cataplasm.

August 1st.—A little of the slough came away this morning; more pain round the edges of the wound; bowels regular; no mucous stools.

Cont. ung. et cataplasm.

4th.—A considerable portion of slough was removed; wound beneath healthy; bowels regular, and appetite very good; sat up for a short time with very little inconvenience.

Cont. ung. et cataplasm.

8th.—The whole of the slough taken away; caustic necessary to repress exuberant granulations; has taken some port wine, sits up a good deal, and feels stronger.

Bibat. cyath. vinos, vin. Port semel bisve indies.
Capt. f. ℥i. decoct. cinchon. ter quaterve indies.
Omit. ung. et cataplasm.

10th.—Wound looks well, but the feces irritate it; has anointed it with oil, by which it is a little protected.

Cont. mist. et vinum.

16th.—Walked a quarter of a mile with comfort, and improves in every respect; still washes the wound with a syringe; it is filling up and beginning to cicatrize.

Cont. mist. et vinum.

21st.—The wound is nearly healed; there is an eversion of the mucous coat of the gut after any exertion, but it is easily reduced, and gives very little pain; passed a small quantity of mucus by the rectum this morning.

Omit. mist.

September 7.—Since last report his recovery has been progressive; the wound is completely cicatrized; there is eversion, as usual, on exertion; mucus has continued to be daily discharged by the natural anus, while all the feces pass by the artificial one.

On the 9th a long elastic tube was passed down the gut from the artificial anus. On reaching the upper part of the rectum it recoiled on itself. A rectum-bougie was again tried from the natural anus with no better success. A truss was at this time procured for him on the plan of the self-adjusting one, with this difference, that, in the centre of the pad, a tin box was placed for catching the feces. This box could be taken out and replaced at pleasure. On the 12th he left Blackburn to resume his employment. I was informed on the 21st of October, that the truss had not answered our expectations. When he used it, the invagination was very great, and sometimes the feces escaped from the edges of the pad. The best contrivance yet discovered is a piece of soft sponge, about the size of a hen's egg, and common bandages. This, he says, permits the passage of wind, and obstructs the feces till he has an opportunity to relieve himself. Since he has returned to his employment, he has experienced a more regular habit of body, and is in every respect more comfortable.

In a letter received on the 10th of November, he says—"On

Friday, the 29th of October, I felt a slight degree of sickness, with severe pressure and pain upon the fundament, so that I was obliged to leave off work. On the Saturday morning I got up a little better, and went to the water-closet, where I dispensed" (by the natural anus) " with a quantity of matter of some kind; it not being quite light enough, I could not see what it was; but in going a second time, I saw something like blood and skins: however, in the course of the day, I went three or four times, and every time voided a quantity of well-concocted stool, about the consistence of thick water gruel. In a few days, I parted with a little more at a time, and went four or five times a day. It now comes more solid, of the consistence of water-porridge, and about the thickness of one's little finger."

In May last, he informed me that he had been disappointed in the hopes of relieving himself by the natural passage, as it had again nearly closed.

He feels tolerably comfortable, but is obliged to take less food than usual, to prevent corpulency.

He has not discovered any thing more convenient than the sponge and bandage above described.

Should any material change take place in this case, I engage to make it known to the profession.

P.S.—August 20*th.*—Since I last wrote to you, I have received a letter from Baron, dated July 19th, who is, in his situation of life, a very intelligent man; and, as he appears to think the changes lately made for his comfort admit of little or no further improvement, I am induced to trouble you with an account of them. To the opening in his side he first applies a small piece of cotton, and over it a piece of waste paper, rather larger; on this he lays three or four folds of cotton or linen, about 12 by 14 inches. These are bound firmly on by a bandage of cotton about 6 inches broad. He next applies a truss, on the principle before mentioned, except that he uses over the aperture a piece of boxwood 2½ inches in diameter in lieu of the tin box.

It appears to me, that the obstruction in the rectum was caused by the intussusception of the lower portion of the sigmoid flexure of the colon, that adhesive inflammation had taken place in the parts before I saw him, and that the change which happened on the 29th of October, was owing to a slough being thrown from the diseased part; but that this process has since ceased, and for the present taken away the hope he entertained of relieving himself in the natural way. The truth or falsehood of this hypothesis may possibly be at some future time ascertained by inspection of the body, should I be the survivor.

VI.

Case of Tetanus by W. W. MANIFOLD, *Surgeon, Liverpool, with Remarks by* Dr BRIGGS.

APRIL 17th.—EVAN WRIGHT, aged 15, had a severe compound fracture of the lower phalanx of the right thumb, about eighteen days ago, which was reduced and dressed by a surgeon, and continued improving until Monday last, when he walked to Warrington, a distance of eighteen miles, and had not his wound dressed on that day. The same night he complained of loss of appetite, with great thirst, and considerable pain in the thumb. In the course of the night tetanus came on. His mother applied to the Dispensary there, and had some powders prescribed him by one of the surgeons, who recommended her to keep his body open, and to get the boy home as soon as possible, that he might be taken into the Liverpool Infirmary. He was conveyed home in the coach yesterday, and to-day I saw him.

He is a most pitiable object; the stiffness is universal, but affecting the arms less than any other part of the body; the spasms are frequent, sometimes having the effect of pulling him violently back, at other times forward, so that he falls from the chair, often with great force; jaw cannot be opened to the extent of more than a quarter of an inch, and he has great difficulty in swallowing, in consequence of the spasm, as he says, attacking his heart; he complains of much pain at the scrobiculus cordis, and down the back, which is very much aggravated by the spasms, or any attempt at deglutition.

On examining the thumb I find it inflamed, and partially suppurating; no pain up the arm, and not much in the hand; pulse 105; two stools to-day by a dose of salts taken last night. As I had lately read Dr Briggs's case of tetanus, in the Edinburgh Medical Journal, successfully treated by powerful doses of drastic purgatives, I determined upon the same treatment, and ordered my patient to take one of the following powders every five hours; *Hydrarg. submuriat. et scammon. ā gr. x.*; and the wound to be fomented and poulticed every three hours.

18th. ½ past 11, *a. m.*—Dr Briggs saw him with me, and continued to attend twice a day. Much the same in all respects; but the trismus appears to be more violent, as, on attempting to give him drink, we could scarcely get the side of the cup between his teeth; the spasms have been frequent and violent through the night, and he has bitten his tongue several times; is drawn backwards more frequently than forwards; pulse 102; one stool in the night, very black and offensive; has taken three powders. Continue, and let the caustic potass be applied to the wound.

6 *p. m.*—Two more of the powders taken since morning, which have not operated; he complains very much of the pain at his heart, and nausea; the opisthotonos very violent; is never drawn forward now; trismus quite as much as yesterday. Pulse 100, hard and contracted; heretofore it has been more like the pulse we find in typhus. Add to each powder gamboge, gr. iv. and repeat the dose every *four* hours, with one ounce of the following mixture; *Infus. sennæ ℥vij. Pulv. jalapæ ʒij. Tinct. sennæ ℥i. M.*

Pulv. opii ʒi. Ung. simpl. ℥i. M. to be rubbed upon the jaws.

19th, 8 *a. m.*—Has only taken two powders with the mixture, owing to his great aversion to them; one scanty stool of a dark colour; spasms as yesterday, but I think a little increased in *strength* and *violence*, and diminished in *frequency;* pulse 100. As his mother raised him out of bed, all the muscles of voluntary motion were affected, and he continued very stiff, with his head drawn back, and legs apparently immoveable. I gave him a powder and dose of the mixture.

½ past 11 morning.—He is still very stiff, and spasms violent; no stool; pulse as before. The trismus is very severe this morning; for on giving him a second powder was obliged to have it (mixed with treacle on a broad blunt knife) applied to his lips, and he sucked it through his teeth. Repeat the powders, with *five* grains of gamboge, also the mixture.

7, *p. m.*—One small stool since last report, which was still black; urine passed very freely; spasms not so severe, but stiffness on motion worse than last night. On raising him up, we were obliged to wait some minutes ere he could sit down, being in one continued state of opisthotonos. Apply a blister along the spine, from the neck to the sacrum. Repeat the powders and mixture every *three* hours. Has had wine ordered since the first, but it is not clear how much of it he has got; certainly but little.

20th.—11, *a. m.*—A restless night; spasms, with opisthotonos, still very violent; one stool in the night, not kept, but scanty; has taken, since this time yesterday, *hydr. submuriat. et scam. ā ℈ij., gambog. ℈i.,* with four doses of the mixture, or *jalap ʒi. inf. sennæ ℥iiiss. tinct. sennæ ℥ss.* Repeat the medicines. ℞ *nicotianæ ℈ss. aq. bullientis* ℔ss. *Fiat enema statim injiciendum.*

7, *p. m.*—Blister risen very well; no stool; spasms violent; opisthotonos and trismus as much as ever; pulse 90, small and wiry. The cold affusion was tried to-night, but it increased the spasms and stiffness so much, that it was not again attempted. Continue the medicines, and repeat the tobacco glyster.

21st.—¼ past 10, *a. m.*—No sleep through the night; the tetanus was at times so severe, that his mother concluded he was dying; and, particularly, soon after the cold affusion; pulse 92, hard, and contracted; no effect from the medicines. The glysters came away in a quarter of an hour after their injection, without any smell of feces. He has taken, since yester-morning, *hydr. submuriat. et scammoniæ ā ℈iss.*, and 25 gr. of gamboge, with three-fourths of the mixture, which has been strengthened by the addition of jalap ʒi. to each ℔ss. Repeat the medicines every three hours.

7, *p. m.*—No improvement; has taken the powders and mixture twice, without any sensible effect; pulse 90. Repeat the medicines, and a glyster, with tobacco, ℈i.; and let 20 leeches be applied along the course of the spine.

22d.—11, *a. m.*—One stool this morning, still black, and not copious; opisthotonos somewhat relieved since; spasms not so violent, and can open his mouth about a quarter of an inch, which he could not do before. Had had a very bad night, with a continuity of spasm from 12 till 7, and the rigidity so very great that his parents concluded he was dying. Has complained more of pains in the *groins* and *belly* than he ever did before, but not in the least of *pain at the scrobiculus cordis*. I am under the necessity of giving him the medicine myself, otherwise it would not be taken. Has had four powders and half of the mixture since this time yesterday; urine free from the first; pulse 84, hard.

3 p. m.—No stool since morning; has taken one powder and a dose of the mixture; gave him a powder containing *hydrarg. submuriat. et scammon. a ℈i gambogiæ ℈ss.*, and a dose of the mixture; pulse 88; immediately after a spasm it rises to 96, and sometimes to 100, and still hard.

9 *p. m.*—No stool; has vomited the last powder and mixture; spasms more frequent, and have increased in severity since last visit; the rectus abdominis at times violently contracted, and the divisions of this muscle very perceptible; a swelling the size of an egg forms in the groins, which is extremely painful, and is more complained of than any other part; stiffness and opisthotonos as much as at any time yet, or perhaps worse than I have seen them. One powder as strong as the last, taken in our presence, which was not rejected.

11 *p. m.*—No stool; spasms frequent; groins very painful; has retained the last powder, and gave him another with ℥i. of the mixture, and ordered them to be repeated every *four* hours, till we saw him in the morning; pulse 80.

23d, 11 *a. m.*—No stool; has slept three hours during the night; but if there is any change this morning, it appears to be for the worse, as the whole of the body is in a state of contraction, except the arms, which appear to partake but little of the stiffness. Jaws entirely closed; has taken *no wine* for the last two days owing to its producing sickness; gave him *hydr. submuriat. et scammon. ā ʒss.* with gr. xv. gamboge and ℥ss. of the mixture.

3 *p. m.*—No stool; spasms very frequent, appearing to affect alternately the muscles of back and abdomen; to have a glyster with *ol. terebinth. ℥ss, and aloes ʒii*

7 *p. m.*—No stool; symptoms as before, but I think his looks are more haggard and distrustful than formerly; pulse 105, small, and weak. We gave him *ol. croton gtt. ij.* on a little treacle, and ordered him the following glyster. *Mag. sulphat. ℥iv. inf. sennæ lb. i.*

9 *p. m.*—In less than an hour after the exhibition of the croton oil and one glyster, had a black stool; much relief; says it was immediate after the first stool, and has continued improving since a second; pulse 72.

On the 21st and 22d ptyalism came on in the afternoon of each day, which continued about an hour, amounting to perhaps lbss. each time. Repeat the croton oil.

24th, 11 *a. m.*—Three stools in the night, of a little better colour than any he has had yet; much easier this morning; only two spasms in the night, and those of a milder kind than formerly; can open his mouth about a quarter of an inch, and says the pain in the jaws is not so great; pulse 70; passed a lumbricus with the stool in the night. Reduce the powder to *hydr. submur. et scammon. ā gr. x.*

2 *p. m.*—Still better; no stool since our last visit; administered two drops of croton oil.

7 *p. m.*—Continues better; only three spasms since 4 this morning; one stool since 2. Repeat the powder.

25th.—A very restless night from pain and spasm of the right shoulder; he says it was produced by his thumb being hurt last night; it has left him entirely this morning. An œdematous appearance on pressing on the trunk, particularly over the pectoral muscles, was observed this visit. The discharge from the thumb is of a healthy kind; one stool in the night of a greenish colour; pulse 75, and soft. Repeat the same powders as last.

7 *p. m.*—Only one spasm since morning, and is much better in every respect. Complains of soreness of the mouth and tongue, and says his teeth are loose; very little ptyalism since the 22d; to have *jalap ℈i., and scammon ℈ss.,* and a common glyster at 10, if necessary.

26th.—Improving very fast; no spasm since our last visit; two stools of a dark colour; another lumbricus passed; pulse 75, soft. The œdematous appearance has much subsided today, but still the pitting on pressure is a little perceptible; can now open his mouth more than half an inch; slept nearly the whole of last night; still very stiff in walking, or as though he had no knee or ankle-joints, and the heel is scarcely put to the ground.

27th.—Two stools in the night, one of a dark, and the other of a brown colour; has had a great deal of pain in the muscles of the jaws, which are very rigid, and contracted into knots. The trismus was so severe in the course of the night, that his teeth were set, and he could not drink any thing: the muscles of the back of the neck were also very much affected, and the head was drawn back, and could not be moved forward in the least. These symptoms continued till after 3 this morning, when he went to sleep, and slept till 7; was easy when he awoke, and has had no return; tongue and mouth easier; no ptyalism; no medicines taken since the 25th. Repeat the *calomel and scammony.*

28th.—Three powders taken, equal to *hydr. submur. scam. a. ʒss;* no stool; a very comfortable night, and can put his tongue out more than half an inch; it appears affected by the mercury; pulse 75; to have a common glyster immediately, and if it does not operate, let him take ol. croton gtt. ij.

7 p. m.—Two stools from the glyster of a blue clay colour, and plentiful; appetite good; the discharge from the wound is very healthy; the thumb is swelled, and not quite straight, and it appears as though the suppuration, which has hitherto been confined to the inside, was extending to the back of it. Repeat the powder.

29th.—No spasm since last visit; can now open his mouth an inch and a half. Matter has formed on the back of the thumb; I have opened it, and there is some discharge; he is directed to attend to the fomenting and poultices; pulse 75.

30th.—Still improving; is now able to walk about the room, and nearly the whole of the rigidity of the limbs has left him; to take *extr. colocynth. comp. gr. x.* night and morning.

May 1st.—Yesterday, after our visit, he walked to the market, a distance of 300 yards, and back again, without feeling much fatigue; he says he is now quite well; and he really is so, with the exception of the thumb, and his not being able to open his mouth as wide as formerly, but the rigidity there is subsiding fast.

Since 1st,—I have occasionally seen him since last report, but I do not think it requisite to particularize each visit, as he is now quite well. A few pieces of carious bones have been thrown off from the thumb, and it is now perfectly healed.

August, 1825.

Remarks by William Briggs, M. D.

The importance of the foregoing case will be more duly appreciated, if it be taken in conjunction with one published in this Journal, by me, in April 1809, to which I would respectfully refer the reader.

For the many inaccuracies and obscurities, of all sorts, with which that article abounds, I have no better apology, at this day, to offer, than that, for the only time in my life, I had made use of an amanuensis; and also that, though it still may appear rather long, it was originally longer; but that, *after it was sent off*, I was advised to curtail it.

This I now regret, because, as I then said, "I was less solicitous to avoid the imputation of prolixity, than to conduct the reader into my patient's chamber, as it were, and there to leave him to draw his own conclusions;" and, in the original reports, there was, I think, evidence to have established more clearly than now appears, the conclusion, that the drastic purges operated strictly as *antispasmodics;* while even very copious, solid evacuations, whether spontaneous, or produced by *ordinary* aperients, though in pretty full doses, were *not* followed by the same relief.

In farther illustration of this principle, as also of another to which I formerly adverted, namely, that when drastics have been freely administered, their beneficial operation is sometimes felt even *before* a stool is procured. I would more particularly refer to the reports for April 27th and 28th in the present case, and would solicit a comparison of them with those for July 27th, 28th, and August 1st, in the case of Gashell. At what time in the night the evacuations were procured in Wright's case, is not stated, nor can I now learn; but it appears that *all medicine* had been discontinued since the 25th. The reason was, that neither Mr Manifold nor myself happened to be *present* to enforce our own directions; without which, little was done, from first to last. The more wonderful circumstance is, that such symptoms should have *subsided of themselves* at all. My own belief is, that, if they had been left to themselves, they would have recurred ere long; but that they were prevented by two powders taken on the 28th, amounting to calomel and scammony, ā ʒss; which, however, is considerably less than what he took *at one dose*, on the morning of the 23d. But it will be seen that, *before* the powders had operated, there seemed to be a sensible improvement, and that, from that time, he never had any thing like a drawback.

In fact, it is on the principle of *counter irritation*, as on a cardinal point, that the whole theory seems to turn; and according to what I have formerly stated, perhaps it might have been expected, *a priori*, that, in such a strong morbid concatination, nothing would be so likely to break the train, as some *stronger* counter irritation on the bowels. I have several *minor* cases, of the same genus, which I might adduce to strengthen this evidence; one of them, in particular, as exhibiting rather an unusual and very formidable complication of nervous disturbance, with extensive inflammation and suppuration in the vicinity of the parotid, ought scarcely to be reckoned among *minor* cases; for I thought at the time, and I am now more than ever persuaded that the patient was in extreme jeopardy, and that unless the tetanic spasms had been speedily arrested, while, at the same time, much care was taken to preserve the vital spark, she must soon have been carried off, probably in a convulsion.

However, the foregoing case by Mr Manifold may well supersede all farther evidence; for it was a very severe one, and the more valuable because it was of the genuine *traumatic* species; thus furnishing a proof that this species is not in itself more intractable than the other, as some have thought. On the contrary, the recovery was more than twice as rapid as in the former case; and it should be noticed, that all the difference was in the *later* stages; for, up to the 5th or 6th day, the improvement in Gashell's was fully equal to that in Wright's. I more particularly advert to the mighty change that was effected in the course of two or three days, from the afternoon of July 16th. But here it was that the plan was relaxed; and from the melancholy result of another case, which I shall state, I now believe that I ran a great risk of losing my patient, only that the treatment was still pretty active. But, in fact, I was startled at my own practice; for, as I said at the time, the quantity of strong medicine given was perhaps unprecedented in this country. Be it remembered, however, it never occasioned either sickness or griping; and that, from the time when it was intermitted, the progress was comparatively slow; it was not till after three weeks longer, that he was able to walk to the Dispensary; whereas Wright, who had been almost as stiff as a tree, walked to the market at the end of *one* week from the time when he took the oil of croton. What share this drug had in producing the change, it might not be safe to infer from a single case, more especially as other strong medicines in large doses had been premised; yet, considering how speedily the relief followed its first exhibition, it has at least a strong claim to attention.

In both cases there are repeated notices of pains and contractions about the groins and recti muscles, rather than at the ensiform cartilage. In Wright's, more particularly, it would appear from the report for the 1st day, as compared with that for April 22d, at 9 *p. m.*, as if the one had *superseded* the other. This I was willing to regard as a favourable *revulsion;* and I could not but remark to the gentlemen present, that it was something gained to have the scene of conflict removed from the *citadel* to the *outworks.*

I do not, however, lay much stress on this one symptom taken singly, as leading to a more favourable prognostic; for, in the Number of this Journal for April 1810, there is a case of fatal *idiopathic* tetanus, with convulsions, where, on the very day of the patient's death, it is stated, that "the agitations and convulsions of the muscles of the neck and thorax were more moderate, but that the *belly became as hard as a piece of board, with a pain in both groins;* a description which would apply exactly to either Gashell or Wright.

Mr Manifold has mentioned the feeling and appearance of œdema on the chest after the tonic spasm was relaxed. It was, indeed, very remarkable; and I don't remember ever to have seen it noticed before; it was just as if the texture of the muscles had been broken down by percussion, and may serve to give some idea of the severity with which they had been affected. It disappeared in the course of a day or two.

It will be seen, that Gashell could not bear much *wine,* and Wright still less. In the case, however, to which I have alluded, of the complication of spasm with inflammation, I am persuaded that wine was almost of as much use as purgatives, or perhaps more so; and I conceive it will generally be right to *attempt,* at least, to conjoin them. The late Dr Currie states a case of traumatic tetanus, successfully treated by himself and Mr Park of this town, in which 110 bottles of Port wine were taken in 42 days. In the fatal case which has recently occurred here, I regret exceedingly that more was not done in this way.

On the whole, it may be supposed that my previous views of the mode in which tetanus, whether idiopathic or traumatic, ought to be attacked, have been not a little strengthened by the issue of the foregoing case. It was a great additional satisfaction to Mr Manifold and myself, that it was regularly seen, during the most critical stages, by my friend Mr Halton, surgeon, who, I am sure, will vouch that no part of the statement is overcharged. Indeed, had the case been published immediately after the event, the probability is, that I might have expressed myself with too much confidence; for I could with truth have said, that I had seen the same practice followed in five or six cases, more or less severe, and that I had never known an instance where it had failed, if properly persevered in.

I am not sure that I ought not to say so still; but unfortunately the case to which I have adverted has since occurred; and if it do not form a real exception to the rule, it should at least serve to qualify and correct one's views. It was idiopathic tetanus, and the patient was carried off in a convulsion, on the day after I first saw him.

It was my intention to have added some particulars of this case; but owing to the length to which the present article has been extended, I must defer these till the next Number of this Journal.

Liverpool, August 10*th*, 1825.

VII.

Case of Erysipelas of the Face, successfully treated. By WILLIAM MACLEAN, Surgeon, Kilmalcolm.

On the 13th January 1824, I was called to J—— G——m, æt. 50, of rather a robust habit of body, complaining of headach, with a sense of general soreness over his body, and slight cough. On the morning of the 13th, the erysipelatous inflammation of the face was ushered in by a distinct rigor, which was soon followed by pain, tumefaction, and dusky redness of the face. The swelling and redness are extending along the scalp; the palpabræ are completely shut by the swelling; complains of nausea, with an inclination to vomit; tongue furred; skin hot; pulse 112, full and strong; bowels constipated.

Detrah stat. sang. ad ℥xx. Sumat sulph. magnesiæ ℥ij.

14th.—Erythema not so florid; swelling much the same as yesterday; pain in the face relieved by the bleeding; complains to-day of thirst, for which he is to take at his own desire the supertartarate of potash in his drink; sickness relieved; slight vesications appear on the cheeks; salts operated well; had four motions from them of a dark colour; blood drawn yesterday exhibits a firm buffy coat; pulse still full, beating 110 in the minute.

Repet. V. S. ad. ℥xiv. et postea applicentur parti affectæ lotiones frigidæ ex mur. amon.

15th.—Erythema diminishing; pain and swelling not so great; can now half open his eyelids; eyes water profusely; sickness worse to-day; thirst not so urgent; had a restless night; complains of wandering pains in his head; tongue still furred; bowels rather torpid; pulse 109; blood drawn sizy.

℞ *submur. hydrarg. gr. x. Pulv. jalapæ comp. ʒss. M. ft. pulv. pro dos. Contin. lotiones frigidæ.*

16th.—Erythema very faint; swelling continues; pain gone; still some thirst, for which continue the cream of tartar; wandering pains complained of yesterday less frequent; cuticle on the cheeks desquamating; powder operated well; stools still dark; pulse still full.

Repet. VS. ad. ℥x. ℞ *Sulphat. Magnesiæ. ℥iv. Solve in aquæ bullient.* ℔*ij. Capiat. ℥ij. omni hora. Contin. lotio frigida.*

17th.—Solution did well; stools better coloured; wandering pains in the head gone; erythema almost gone; swelling much the same; blood still buffy, although not so thickly coated; pulse softer. *Contin. ut heri.*

18th.—Erythema gone; swelling diminishing; tongue cleaner; feels better to-day in every respect; pulse still keeps soft; bowels kept regular by the solution. *Contin. medicam.*

21st.—Continues to improve; swelling diminishing rapidly; ordered him to continue the purgative solution, to keep his bowels easy by means of it. *Contin. lotio frigida.*

23d.—Swelling disappearing; has now no complaints; is able to be out for a short time to look after his affairs in part; took my leave of him.

Remarks.—The preceding case of erysipelas of the face is somewhat analogous to those related by Dr Duncan, junior, in his paper on that affection, published in volume 17th of the Edinburgh Medical and Surgical Journal. It tends to corroborate the doctrine of depletion, aided at the same time by cold applications employed in the management of rose; and the publication of such cases as they occur will, in my opinion, tend ultimately to overthrow those hypothetical doctrines, which have long fettered the majority of the profession.

Since the above case occurred, I have had several other cases of erysipelas of the extremities, which yielded to the same method of cure. In conclusion, I cordially agree with Dr Duncan in thinking, "that there is nothing in the nature of erysipelas essentially different from other inflammations;" and, in my opinion, we ought to treat it as fearlessly as we do other affections belonging to that class of diseases.

Kilmalcolm, 9th April, 1824.

VIII.

Cases of Erysipelas, treated chiefly by Leeches and Warm Fomentations. By W. H. Burrell, M. D., Assistant-Surgeon, 72d Regiment. Communicated by James Dease, M.D., Surgeon to the Forces.

Edinburgh Castle, 24th *April* 1825.

Dear Sir,

In transmitting you the two accompanying cases of erysipelas, in the successful issue of which you had a great share, and for which Mr White and myself feel much indebted, I would remark, that both cases appear to me extremely interesting, the first especially; not only as throwing considerable additional light on the pathology of the disease, much too often regarded and treated as a local affection, whilst evidently preceded and attended by great constitutional disease; but as proving most satisfactorily the superiority of a steady, bold, and determined antiphlogistic plan of treatment over that vacillating deplorable practice, which, whilst it aims at subduing the inflammatory nature of the disease by proper remedies, becomes suddenly, and without reason, changed to a diametrically opposite course by absurd and unfounded fears of debility. I can imagine cases, particularly in large towns, wherein depletion requires to be administered with caution, perhaps to be altogether inadmissible; but I cannot for a moment suppose that a decided tonic or stimulating plan of treatment can ever be advisable or proper. " Venesection," says Dr Good, " was formerly recommended, and has been so of late by a few writers, but upon mistaken principles. I can conceive very few cases in which it has a chance of being serviceable; and the application of leeches always exasperates the efflorescence. We should first cool the body by gentle laxatives, and instantly have recourse to a tonic plan. The bark given largely, as long since warmly recommended by Bromfield and Colly, has rarely failed of success." Now, I cannot conceive a run of cases that would justify the above observations of Dr Good; for, in whatever class of subjects, or under whatever circumstances the disease may occur, its character is inflammatory; and however much it may be associated with an exhausted condition of body, the morbid action, though inferior in force, is the same, and if not made to yield to an antiphlogistic plan, cannot reasonably be expected to give way under any other. I would not be understood to advocate large and repeated bleedings, or an indiscriminate depletory line of practice; for, as I have before said, there are many cases in which it must be had recourse to sparingly, in others not at all; but that the disease, as it generally presents itself, whether contemplated in its accession, march, or termination, obviously suggests to us, and which is amply corroborated by experience, that, if it be not proper to abstract stimulus, it must at least, under common circumstances, be injudicious to add to it.

It will be found in these cases, like the class Exanthems, that there is extensive inflammation of internal mucous surfaces, and that the extent and duration of the erysipelas, as well as the danger of the affection, will be very much regulated by the greater or less intensity of this internal oppression, and not, as has been often erroneously imagined, to any independent morbid action in the cutaneous tissue; as in smallpox, we shall be able to reduce the fever, and determine a favourable termination to the eruption, in proportion as our means of cure are directed to the removal of the internal disease. We have in general had our attention too exclusively directed to the external affection, which is but a part or symptom of the other; and, instead of striking at the original source, and maintaining cause of the general disturbance, in that bold and energetic manner, which the very obvious pathology of the disease and the result of experience are calculated to excite, we have not only been trifling and losing time by absorbent powders, and other very *innocent* applications to the erysipelas, but, beset with groundless fears of a debility always accompanying inflammation of the abdominal viscera, we have not, as fatal cases ought long ago to have taught us, abstracted stimulus compatible with the strength of the patient, but have been adding fuel to the flame, by the administration of wine and bark, the latter of which, to an inflamed mucous membrane, I can conceive to be even worse than saw-dust.

I trust that the still existing prejudices against the application of leeches to erysipelatous surfaces, will be in some measure removed by the perusal of these cases. I cannot too highly extol the advantages of warm fomentations in these cases; besides being grateful and soothing to the patient, they most effectually relieve the heat and tension of the inflamed parts; and I cannot but recommend them as a safe and powerful auxiliary to the application of leeches, the number of which, it may be necessary to say, should not be trifling, if we are to look for decided advantage.

I shall only further trespass on your patience and the pages of the Journal to remark, that, as the principal and most dangerous share of the disease is seated internally, in the shape of bronchitic and gastro-enteritic inflammation, whilst we prevent by active measures the reaction of the external disease, we should have our best efforts directed to the subduction of the other. This, as you know, is not to be accomplished by wine and bark; but the warm bath, leeches to the chest and abdomen, and laxative medicines, among which perhaps mercury is deserving of praise. The use of bark in this disease cannot, in my opinion, be too highly reprobated; and stimulants of every kind can only be indicated or advisable when the powers of life are manifestly ebbing from protracted suffering. I am, dear Sir, truly yours,

W. H. Burrell, M. D.,
Assistant-Surgeon, 72d Regiment.

To James Dease, Esq.
Surgeon to the Forces, Edinburgh.

Case I.—Andrew Thompson, 72d regiment, æt. 20, of a sanguino-phlegmatic temperament, and delicate habit of body, was admitted into hospital 21st January 1825, with severe catarrhal symptoms, accompanied by slight febrile disturbance, which yielded to blood-letting and the antiphlogistic regimen, and he was reported convalescent on the 30th. On the 1st February he was attacked with nausea and vomiting, followed by some return of cough and fever, which became much increased on the succeeding day, when he was let blood to twenty-four ounces, and freely purged. The febrile action, however, continued with little abatement till the following day, when it underwent some reduction. There then appeared over the face, back, and extremities, a thinly scattered varicelloid eruption, at first papular, but assuming on the third day a vesiculo-pustular form. The face was a good deal beset with it, but the interspaces here and on every other part were large. None appeared over the abdomen. From the first appearance of the eruption, he had considerable redness and swelling of fauces, and the cough became much increased in frequency and severity. It was found on inquiry, that he had slept the first night of his admission into hospital, in an adjoining bed to a man convalescent from small-pox. Had a distinct mark of vaccination on the left arm.

On the 8th February (the fifth day), the eruption had come to full maturation, and had now a more pustular appearance, well filled with yellowish matter, and surrounded with a narrow red border; but there was little intumescence of the interstices. Soreness of throat, cough, and fever, considerably reduced.

He continued to go on improving till the 11th, when some increase of fever took place, accompanied by nausea and frequent vomiting. Tongue loaded, and red at the edges; pulse 100, and firm; some pain and tenderness of epigastrium; cough frequent; skin hot and parched; eruption brown, and desquamating in many parts. To have 36 leeches applied to the abdomen, the warm bath, and effervescing draughts.

12th.—Was much relieved by the leeches, but in the evening became troubled by frequent loose evacuations, succeeded by feeling of great debility and coldness of surface, which were relieved by small doses of opium and ipecacuan. These, however, were soon laid aside, in consequence of some return of nausea and increase of fever.

13th.—Passed a restless night, with some delirium. Complains of having been purged six times during the night; matter passed watery, and of a yellowish appearance; some nausea; skin dry and rough, but moderate in temperature; tongue loaded with brownish fur, and florid at the point and edges. Slight cough, and hurry of respiration; pulse 120, rather small, and easily compressed; slight subsultus. Over the brow there is a small, irregularly circular patch of erysipelatous inflammation, which appeared in the course of the night. To have the warm bath, emollient enemata, and frequent warm fomentations to the inflamed surface.

14th.—Erysipelas extended to the right cheek and forehead. Considerable heat, swelling, and tension of the whole face; delirium and subsultus; pulse 130, fluttering, and irregular. Other symptoms as yesterday; 24 leeches to the inflamed surface; warm bath and fomentations, and to have a laxative enema.

Vespere.—Leeches bled well; inflammation extended to the nose and left cheek; tongue dry in the centre, and florid. Two watery and brownish evacuations; took 12 drachms of *sulph. magnesiæ* in divided doses during the day; sinapisms to the feet.

15th.—Much delirium through the night; swelling and redness of face reduced; respiration quick, oppressed, and accompanied by occasional cough, and muco-purulent expectoration. Pulse 112, weak, and fluttering. Temperature diminished; feet warm; position favourable; two yellowish stools.

Capiat. pulv. 3tia qque hora ex. submur. hydrarg. gr. iij.

Pulv. cretæ prepar. gr. iv. Emplast. canthar. suris ; Cont. alia.

Vespere.—Two light coloured evacuations ; some increase of swelling, and tension of the inflamed surface. Other symptoms as last report. *Hirudines xij. superficici inflammatæ ; contin. alia.*

16th.—Leeches bled well ; tension and redness of face diminished ; considerable low muttering delirium ; pulse more irregular, and fluttering ; heat of surface diminished. One evacuation which he passed in bed ; blisters have not risen well. *Coch. misturæ camphoræ omni hora. Contin. alia.*

Vespere.—Symptoms as last report. No motion from the bowels since the morning. *Enema domesticum.*

17th.—Cough more frequent ; pulse 120, small, and fluttering, with some occasional sharpness. Tongue not so much loaded ; three watery and brownish stools. Other symptoms as last report. *Rep. enema purg. Contin. alia.*

Vespere.—Heat and dryness of surface increased ; tongue parched ; one dark-coloured and fetid stool ; some disposition in the erysipelas to desquamate. *Inter. mist. camphoræ. Sinapismi plantis. Cont. alia.*

18th.—Passed a quieter night ; general excitement ; delirium and inflammation diminished. Some disposition to doze ; cough still frequent ; respiration less oppressed ; pulse 120, more regular, but weaker. Tongue not so dry ; one dark coloured stool. Had ℥ss. *sulph. magnesiæ* this morning. *Adhib. mist. camphor. ut antea. Sulph. magnesiæ ℥ss. statim.*

Vespere.—Two dark-coloured motions since last report ; pulse 120, weaker, and fluttering. Has taken 58 grains of calomel since the 15th instant. The tartar emetic ointment was rubbed over the chest and abdomen this morning. *Vini rubri ℥ss. omni 2da hora. Enema domest. cras mane. Contin. frictio cum ung. tart. antimon. Inter. mist. camphor. et pulv. S. mur. hydrarg.*

19th.—Delirium rather increased ; swelling and inflammation subsiding ; pulse 120, weak, and fluttering. Skin dry ; temperature less ; three dark coloured evacuations. The tartar emetic ointment has produced a plentiful crop of pustules. Has taken two ounces and a half of wine since 10 o'clock last evening. *Inter. vinum. Detur pulv. ex S. mur. hydrarg. gr. xij. Pulv. Jacobi gr. vi. statim.*

Vespere.—Three dark-coloured stools since last report ; less muttering and incoherency ; pulse 112, smaller, and irregular. *Pulv. ex S. mur. hydrarg. gr. vi. Pulv. Jacobi gr. v.*

20th.—Three dark-coloured stools ; tongue still dry ; but his pulse is more regular, and he appears more revived and coherent. Erysipelas throughout desquamating and free from swelling. The sacrum is rather excoriated; desires to have some butter milk. Let him have it. *Vini. rubri ℥ss. statim.*

Vespere.—Two dark-coloured and watery stools. The wine flushed him a little; pulse 112, fuller, firmer, and more regular. Eyes not so lively as in the morning, and there is rather more wandering. *Sulph. magnesiæ ℥ss. cras mane.*

21st.—Passed a very restless night, with much delirium, which still continues. Eyes dull and heavy, and he is less attentive to surrounding objects. Considerable subsultus and floccitatio; pulse 110, weaker, and occasionally intermits. Tongue still dry and florid; three dark-coloured and watery evacuations since last report; gums apparently affected by the mercury; feet comfortable, and he maintains a favourable position in bed. The discharge from the blistered surfaces of calves is thin and fetid. *Vini rubri ℥ss. Statim habeat S. mur. hydrarg. gr. xij.*

Vespere.—Somewhat revived, and the symptoms in general are more favourable. Two dark-coloured motions; has taken a little sago during the day, with two ounces of small beer occasionally.

22d.—Three dark-coloured evacuations; much less subsultus and delirium; some swelling and small ulcerations on sacrum. Ordered to have two ounces of porter every two hours.

23d.—Considerably revived, but there is great exhaustion; eyes dull and heavy; pulse weak and fluttering; tongue much cleaner and moister; one evacuation of a more natural appearance. Had stir-about for breakfast, which he seemed to relish. *Pil. ex S. mur. hydrarg. gr. x.*

Vespere.—Considerable exhaustion; temperature diminished; features fixed and sharp; eyes languid; pulse 110, weak, and irregular; position still favourable; two more natural evacuations. *Vini rubri ℥ss. statim. et pro re nata rep. Sulph. magnes. ℥ss. cras mane.*

24th.—Has taken three ounces of wine since last report; it does not flush him; great exhaustion; eyes dull and heavy; pulse not so frequent, but very weak, irregular, and intermittent; two pretty natural evacuations; perfectly coherent; position still favourable. *Vini rubri ℥i. statim.*

Vespere.—Has had no wine since the last prescribed; seems a good deal revived; two pretty natural evacuations. *Sulph. magnesiæ ℥ss. cras mane.*

25th.—Passed a quiet night, with some sleep, and he is a good deal revived; two natural evacuations. Ordered to have a little calf-feet jelly occasionally.

26th.—Had some delirium during the night, but is at present quite coherent; tongue still disposed to dryness, and loaded; pulse 116, small, weak, but more regular; great exhaustion and emaciation; complains of pains of bones. *Sulph. magnesiæ ℥ss. statim.*

Vespere.—Considerable heat of surface; tongue parched; pulse 116, and stronger; two pretty natural stools. *Ablutio aquæ tepidæ aceto mixta. Sulph. magnesiæ ℥ss. cras mane.*

27th.—Passed a pretty quiet night; skin cool; tongue less loaded, but still dry and florid. There is great exhaustion, and he is now obliged to be lifted out of bed; but the other symptoms are more favourable. No motion since last report. *Vini rubri ℥ss. Sulph. magnesiæ ℥ss. statim.*

28th.—Expresses himself better; tongue moister, but smooth and florid; pulse 110, weak, but regular; three pretty natural evacuations. To continue the jelly.

Vespere.—Great restlessness, from pains of shoulders and other parts; frequent and loud complaint; pulse 116, and fuller; skin hot and dry; tongue parched; two pretty natural stools since last report. *Ablutio aquæ tepidæ aceto mistae, et habeat haust. ex. tinct. opii gtt. l. Sulph. magnesiæ ℥ss. cras mane.*

1st March.—Slept soundly for several hours, and perspired freely; much revived; pulse 110, and fuller; tongue moister; some return of appetite; one natural stool. There is a diffused swelling over the sacrum, with obscure fluctuation. *Catap. emolliens. Rep. haust. anod.*

2d.—Slept well, and is much better; tongue more natural than it has yet been; one natural stool; pulse 104, and regular; distinct fluctuation of swelling on sacrum. *Incisio.*

3d.—About half a pint of matter discharged from the abscess. In every respect he is much improved.

It would be tedious to continue the daily reports of the case. It will suffice to state, that, from this period, the symptoms gradually declined. He was much emaciated and enfeebled, and, from the abscess on sacrum, which soon afterwards became a deep and open sore, as well as ulcers over both trochanters, his convalescence, though perfect, was slow and protracted. His tongue long retained a smooth florid appearance, but was free from dryness. His appetite was long delicate, and he required occasional laxative medicine.

Case II.—John Walker, 72d regiment, æt. 19, of a sanguine temperament and full habit of body, was admitted into hospital 25th February 1825. Over the chin, right cheek, and forehead, there were several large clusters of pysdracious pustules, covered with thick yellowish incrustations, accompanied by a great deal of itching and heat, and discharging an acrid ichor. This appeared about eight days previous, and was not preceded or attended by any evident general disturbance. Under the local applications of *liniment. aq. calcis* and diluted citrine ointment, with occasional laxative medicine, it slowly disappeared, and, by the 20th March, it was nearly altogether removed. He then became affected with slight pain of chest, considerable oppression of respiration, and frequent troublesome cough; pulse 86, and sharp; some thirst and anorexia; was let blood to 30 ounces, and freely purged.

21st.—Blood drawn much buffed and cupped; symptoms somewhat relieved.

22d.—Still considerable cough and oppression of breathing; pulse 84, and sharp; tongue white. *Rep. v. sectio ad ℥xxx.*

23d.—Blood drawn buffed and cupped; all the symptoms much abated. From this day he went on recovering, and he was discharged to duty on the 26th.

He was readmitted into hospital on the 3d April, in consequence of a return of his pectoral affection, and general febrile disturbance, which were again much relieved by the abstraction of 18 ounces of blood, and nauseating doses of tartrate of antimony. It was, however, again deemed necessary, on the 5th, to repeat the venesection to 28 ounces, and to continue the use of the tartarized antimony. The following is the report of the 6th. The whole of right side of face is affected with considerable erysipelatous inflammation and swelling, which commenced last night; much febrile disturbance; pulse 100, rather small, but sharp; blood drawn not buffed. *Hirudines xviii. parti rubenti et fotus aquæ calidæ. Sulph. magnesiæ ℥i. statim.*

Vespere.—Leeches bled well; swelling and redness somewhat subsided; pulse 130, small, but sharp; respiration hurried and oppressed, with occasional cough; skin hot and dry; tongue parched and furred, with urgent thirst; abdomen swelled and tense, but without uneasiness; bowels not freely opened; complains of sense of weight in the head; no delirium. *Habeat statim gr. x. calomelanos, et cras mane sulph. magnesiæ ℥i. Contin. fotus.*

7th.—Less swelling and tension of right side of face, but the inflammation has extended to the nose and left cheek, attended with much heat, swelling, and tension; tongue moister; four copious and pretty natural evacuations; abdomen less swelled. *Hirudines xxiv. parti rubenti. Habeat. calomelanos g. x. Contin. alia.*

Vespere.—Leeches bled well, and the swelling and tension are much reduced; pulse 134, smaller, and easily compressed; tongue dry, furred, and florid; thirst urgent; four pretty natural evacuations; temperature moderate, and he is perfectly coherent. *Habeat statim. gr. v. calom. Sulph. magnesiæ ℥ss. cras mane.*

8th.—Redness and tension of face subsided, but there is considerable swelling, and numerous small vesications, on the left cheek; pulse 134, fuller, and moderately firm; respiration still slightly hurried, and oppressed with occasional cough and mucopurulent expectoration; tongue still parched, with urgent thirst; two pretty natural evacuations; skin dry, but moderate in temperature. *Calomel. gr. v. statim.*

9th.—Redness and swelling of face much reduced; pulse 120, and of moderate strength; cough and oppression of chest abated; tongue moister; three dark-coloured stools. *Calom. gr. v. statim. Sulph. magnesiæ pro re nata rep.*

10th.—Erysipelas desquamating; pulse 100, moderate in strength and fulness; tongue cleaner and moister; evacuations still dark-coloured; complains much of debility. *Rep. sulph. magnesiæ.*

11th.—Swelling of face subsiding and desquamating in every part; three dark-coloured stools; symptoms in general declining. *Rep. sulph. magnesiæ.*

From this period the symptoms steadily receded; and on the 24th he was free from complaint, with the exception of debility.

IX.

Case of Congenital Hydrocephalus, in which the Operation of Puncturing was repeatedly performed. By JAMES SYM, Kilmarnock.

In April 1822 I was called to visit an infant, of whose case I received the following history: The midwife had remarked at his birth, that his head was of an uncommonly diminutive size; and during the whole of his life he had been so fretful, that his mother was surprised he should continue to thrive, while he seemed to suffer almost constant uneasiness. He increased in bulk, however, and sucked with sufficient avidity, showing nothing peculiar in his appearance, and no symptoms of disease, till he was about six weeks of age. It was then observed that his head had become tumid at the fontanels, and he began to sleep worse than formerly, to take less nourishment, and to decline in his flesh. When I first saw him he was eleven weeks old, and I found his head exceedingly enlarged. Upon placing it in the direct rays of the sun, it was evidently diaphanous down to the temporal muscles, and water might be detected by distinct fluctuation throughout every part of it. There was nothing unhealthy in the appearance of his eyes; and although it was impossible to ascertain the degree of vision enjoyed by so young an infant, still he must have possessed the use of that sense to a certain extent, as he was always most readily appeased during night by lighting a candle in the room in which he lay.

I prescribed small blisters, and a gentle course of calomel, as much with the view of fulfilling the ordinary routine of practice, as from any feasible hopes of removing so large an accumulation of water by absorption. This course was persevered in for a fortnight, when the integuments covering the wide interstices between the bones, became so tense and thin, that I apprehended sloughing. His pulse too had become extremely small and rapid, his cry feeble, his body emaciated, and he rejected the breast.

I now scratched an opening with a lancet in the posterior fontanel, and six ounces of salt-tasted serum flowed from it, leaving the head so flaccid that it was found difficult, by means of lint and a bandage, to approximate the bones to a globular form. The child didnot appear to suffer any inconvenience from the sudden removal of the fluid. He revived after the operation, slept well the succeeding night, sucked more greedily next day than he had done for several weeks previously, and his pulse became both fuller and slower. It was not long, however, till the water had again perceptibly accumulated, and he began to manifest the same distressing symptoms which had existed before the operation. These were again alleviated by removing the water, which was now done by a small trocar and cannula; and in the course of three months, during which the child was under my care, this was repeated five times, and 36 ounces of water withdrawn. The relief afforded by the operation was so obvious, that I was generally urged by his parents to perform it earlier than I felt disposed to do. At length the water ceased to accumulate about a fortnight after the last tapping; and within a week of the child's death, so much of it had been absorbed, that the scalp fell in between the parietal bones, forming a deep furrow. The secretion of urine was very remarkably diminished during this stage of the disease. The child was six months old when he died.

Dissection.—The dura mater adhered firmly to the bones of the cranium; and the thickened arachnoid membrane formed a large sac, containing 2½ lib. of limpid serum, and partially divided into two chambers by the falx. The cerebellum and pons varolii were of the natural size and appearance, as were also all the nerves which originate within the cranium; but in place of the cerebrum there was only a small, firm, flat mass, not larger than a garden bean, lying over the sella tunica. It was so much compressed, that it was quite impossible to recognize in it any parts corresponding to the structure of a healthy brain.

Kilmarnock, August 1824.

X.

Case of Epilepsy. By DAVID WILLIAMS, M. D., Liverpool.

SARAH BROMHEAD, aged 11 years, of a delicate frame and dark hair, has for the last six months been ailing at different times, and subject to cramp in the upper and lower extremities, when the latter were invariably thrown across each other. She has been under the care of several medical gentlemen, who, I am informed, considered her indisposition to be the effect of worms in the intestinal canal, but none have been observed *in her dejections.*

January 6th 1823.—Complains of frequent lancinating pains in the left temple, extending to the eye, and sometimes down the side of the face to the chin, and a fixed acute pain in the epigastric region, which is alleviated by pressure and sitting with the body inclined forwards. Has also been subject to convulsive fits for the last fortnight, which are generally preceded by a momentary sensation of weakness. They recur at intervals of an hour and a half, or two hours, and continue from a quarter to half an hour. During the struggle she occasionally shrieks, and the muscular agitation shifts irregularly from one part of the body to another, affecting the limbs of the left side more particularly. In the absence of the paroxysm she is troubled with involuntary motions of the muscles of the face, neck, and extremities. She is pale and emaciated, pupils dilated, left eye dull, suffused, with the external angle of the lids drawn towards the temple; pulse 70, and regular; no throbbing in the temporal arteries; tongue moist, and whitish in the centre; bowels slow; abdomen lank and soft; appetite good; urine scanty; thirst inconsiderable; skin cool and moist; itching of the nose.

> ℞ *Olei terebinthinæ rectificati f. ʒvi. Olei essentialis limonum gutt. v. Aquæ menthæ f. ℥i. Fiat haustus statim sumendus et repetatur horâ decubitûs.*

7th.—No return of fits since the first draught was taken; is free from spasmodic twitches, and the contraction of the external angle of the eyelids is relaxed. No motion. *Repetatur haustus horâ somni.*

19th.—*Mane.*—No recurrence of complaints; her health is much improved. Four draughts have been taken since the 7th, they procured several copious, dark-coloured evacuations, some of which contained fragments of a membraneous substance, in appearance, resembling the villous coat of the intestines. Bowels have been regular for the last week without the aid of medicine.

Vespere.—About four o'clock in the afternoon had a convulsive fit, which lasted two hours. When she recovered from the paroxysm, she was speechless, and still remains so; yet she possesses the full command of her tongue. The uvula and epiglottis appear natural, and there is no uneasiness felt about the throat. When she attempts to articulate, can only utter a whirring noise. She is sensible, and writes answers on a slate to the questions asked her. No headach; pulse 70.

> *Habeat haustum antispasmodicum protinus. Applicetur emplastrum lyttae nuchae capitis.*

20th.—Visited along with Dr Traill. We are told that she recovered her speech about two o'clock in the morning. At first she articulated indistinctly, and was very talkative. Present state. Her ideas seem to wander, but when interrogated she replies rationally. Her hands are ever employed; every now and then she starts suddenly to walk about the room, and endeavoures to go out; the muscles of the face, neck, and upper extremities are frequently affected with diseased action; she complains of constant severe pains in the left temple, and in the epigastric and hypochondriac regions: noise in the ears; pupils dilated; pulse 68; tongue clean; skin rather hot; no motion since yesterday forenoon. The head is well proportioned, and there is no deformity of the spine; on drawing the fingers along the spinous processes, there is an evident tenderness about the inferior dorsal vertebræ; no debility of the extremities. She has taken such an aversion to the terebinthinate draughts, that we cannot prevail on her to repeat them.

Abradatur capillitium et applicentur linteo frigida capiti. ℞ *Sulphatis zinci gr. xii. Micae panis q. s. Fiant pilulae duodecim, quarum capiat unam tertiis horis. Statim injiciatur enema cum olei terebinth. rectif. f.* ʒv.

21st.—Aberration of mind; no fit since the 19th; pain in the epigastrium relieved; enema operated twice, and has occasioned strangury and tenesmus. *Continuentur pilulae.*

22d.—Had three fits yesterday afternoon; they were preceded by the same premonitory symptom as noticed above, and succeeded by aphonia, which continued from half an hour to two hours. I witnessed one paroxysm, during which the jaw was firmly closed, the eyes reverted, and all the voluntary muscles were affected with clonic and rigid spasms alternately.

Cont. pilulæ.

23d.—Visited with Dr Traill. Has had several fits; the left side of the tongue was observed to be slightly paralyzed during the continuance of the aphonia. The dorsal vertebræ have not been susceptible of any uneasiness on pressure for two days past; but when the spinous processes of the two inferior lumbar vertebræ are pressed, however lightly, she instantly flinches; yet she feels no pain in the back on motion, nor is there any perceptible lesion of the part affected. Upon inquiry, it seems that last September twelvemonths she slipt down stairs, and injured her back about the tenth dorsal vertebra, which rendered her incapable of walking without assistance for a week or nine days; ever since, on the least fatigue, she has complained of a weakness and a slight aching in the back generally. She is very loquacious, and her countenance appears rather wild; the pain in the hypochondres is so excruciating as to compel her to keep the body bent forwards; bowels open; skin cool and moist; tongue clean; no thirst.

Omittantur pilulæ. Utrique lateri vertebrarum dolentium admoveatur potassa fusa ut fiant fonticuli. Affricentur femora interna nocte et mane cum unguenti hydrarg. fort. ʒ*ss.* ℞ *Hydrargyri submuriatis gr. xxiv. conf. opii q. s, ut fiat massa in pilulas duodecim dividenda, quarum sumat unam nocte maneque.*

24th.—About half an hour after the application of the caustic, the pain suddenly left the hypochondres. Mental alienation, fits, spasmodic twitches as before.

Cont. med.

28th.—No amendment; pulse 90; bowels regular; mouth begins to be affected with the mercury.

Intermittantur pilulæ. Cont. ung.

February 1st.—Is more turbulent; the aphonia, paralysis of the left side of the tongue, the fits, and the spasms in their absence, are aggravated. During a paroxysm this morning, she was observed to be conscious; sleeps tolerably well at night; gums and breath under the influence of the mercury, but no increase of secretion of saliva. The sight and hearing of the left eye and ear impaired.

Omittatur frictio cum unguento hydrargyri. ℞ *Argenti nitratis grana decem terantur probe, et adde micæ panis q. s. ut fiat massa dividenda in pilulas aequales viginti, quarum sumat unam tertiâ quâque horâ.*

2d.—The sight of the left eye lost; the iris is as sensible as that of the right, and no difference is perceivable in the appearance of the two eyes. The hearing of the left ear is also lost.

Cont. pilulæ.

4th.—Awoke this morning with her intellects perfectly restored, and has had no fits since yesterday forenoon. Spasmodic twitches recur at times in the muscles of the left eye; *tinnitus aurium*; bowels regular; issues begin to discharge, and there is but little tenderness felt on pressing the spinous processes of the inferior lumbar vertebræ. The first day the nitrate of silver was prescribed, four pills were taken, and six every day since; the dose to be augmented to three-fourths of a grain.

10th.—No return of complaints, with the exception of occasional pain in the left temple, and slight catchings of the hands, excited by surprise the day before yesterday. In the forenoons of the two last days, she has been repeatedly able to discern the light for short periods with the left eye, and at intervals to hear indistinctly loud sounds with the left ear. There is no uneasiness felt on examining the spinous processes of the inferior lumbar vertebræ. The issues discharge well.

Augeatur dosis argenti nitratis ad granum.

15th.—During the whole of yesterday, the left eye at intervals was capable of discerning the light; the hearing is also improved. Upon any sudden emotion, slight spasms continue in the right arm and left eye.

Cont. pilulæ.

24th.—Sight and hearing restored; has been exempt from all morbid feelings for several days. She continued the nitrate of silver until the 31st of March, when it was relinquished, and the issues were allowed to heal. I saw her for the last time in June in good health; since then her parents have left Liverpool.

Liverpool, 1824.

XI.

Case of Sanguineous Apoplexy. By ROBERT ABRAHAM, Surgeon, and Member of the Physical Society of Guy's Hospital.

W. W. æt. 44, large boned, short neck, not inclined to corpulency, of regular habits, formerly a sailor, but now of a laborious but sedentary employment, was seized, on the 24th of February, with a fit, apparently of syncope, which gradually increased until his limbs became rigidly extended, and sense and volition appeared entirely destroyed.

Being called to him about a quarter of an hour afterwards, found him lying on his back, his face turgid and suffused, his breathing slow, his eyes shut, his skin moderately warm, his pulse fluttering so that it could not be counted. He seemed entirely senseless; but on my asking him, in a loud voice, if he understood what I was saying, he appeared to move his lips, and raised his hand towards his mouth, and on putting my ear near him, heard him whisper, in a very low tone, that he knew what I said, and I obtained from him, in the same tone, rational answers to all my inquiries.

I desired him to open his eyes, which he did; the pupils were contracted. He complained greatly of rigidity and pain in the region of the masseter, which prevented him from opening his mouth so as to speak, and also of oppression at the præcordia. He said that his head was very bad, but he could not describe to me the sensation he experienced. I put some indifferent questions to him, so as to assure myself that his intellectual faculties were unimpaired. He assured me that he had preserved his senses, and knew perfectly well what was going on around him throughout the whole fit.

The whole scene was singular; for he lay like a corpse, his limbs almost completely stiffened, his pulse and breathing scarcely perceptible, his jaw firmly locked, and yet his intellectual powers entirely unaffected.

I now learned that he had occasionally been subject to slight fits of syncope; that he had been bled some years previously, but once only; that he had been troubled with giddiness for some time previous to the accident; his bowels had been regular; he had made a moderate meal on beef steak, and had had a stool about five o'clock *p. m.*; the fit appeared about seven.

I made a large orifice in the basilic vein. After about two ounces of blood had slowly trickled from it, he opened his eyes and looked about him, and, without being desired, put the muscles of his arm in motion; he soon after began to speak in an audible voice; the blood began to gush with violence, and the arterial pulsations to grow distinct and firm. The rigidity of the jaw had now gone off; but he complained of increased pain in the præcordia, and, on placing my hand there, the motions of the heart were almost imperceptible. When he had lost about sixteen ounces of blood, he complained of intolerable coldness, his teeth chattered, and he shook violently, like a person in the cold stage of a paroxysm of an intermittent; but in a few seconds the shivering went off, and the heat returned. When about a quart of blood had been detracted, he complained of being sick; said that he was worse; the blood began to flow with difficulty, and I closed the orifice. His pulse was now about 70, small and soft.

I left him, and returned in about fifteen minutes. His respiration now appeared natural; his pulse had somewhat risen, both in force and frequency; his skin was hot; his feet cold; his tongue moderately clean; his eyes and countenance resembled those of a person intoxicated, and he talked wildly, and somewhat incoherently, still, however, answering questions correctly. He complained of heat and thirst, and felt, he said, " sea-sick" and " groggy,"—words sufficiently expressive of a sailor's feelings.

The blood was extremely black, the serum copious, and the crassamentum heavy, and I had observed, in detracting it, that the colour of the stream remained the same from first to last, and did not, as is usual, become more florid.

Notwithstanding his thirst, of which he complained excessively, I interdicted the use of liquids. I administered three pills, containing about a scruple of the compound extract of colocynth and ten grains of calomel, and left a packet of papers, containing each five grains of calomel, with directions to take one every hour until the bowels were very freely opened; his feet I ordered to be bathed with hot water, and left sinapisms to be afterwards placed on the soles.

I saw him again at half-past ten. He was not materially altered in any respect, except that his feet were warm, and felt, he said, comfortable. The plasters had been on his soles about an hour, and I had taken especial care to make them with good mustard and tincture of cantharides, spread thickly on lint. His general appearance was that of a person in a delirious febrile exacerbation. He had by this time swallowed fifteen grains of calomel, besides what I had given him in the pills, and felt as if he should shortly have a stool.

February 25th.—9, *a. m.* Has had five or six copious stools; had taken another paper of calomel after I left him; in all, 30 grains in four hours. Passed a good night; fever nearly gone off; intoxicating feeling much diminished; considerable dizziness and inability to bear the erect position; complete command of all his limbs; considerable diffused pain in his head: pulse rather small, moderately firm, much influenced both in force and frequency by change of position.

Habeat emplastrum vesicatorium syncipiti.

10, *p. m.* Finding his head relieved soon after my morning visit, did not apply the blister. Has had half a dozen more stools, and asssures me that he now feels in perfect health, excepting that his muscular power is diminished, and his head light. His intellectual powers seem entirely unimpaired; I can discover no paralytic symptoms. His pulse still considerably influenced by change of position.

February 26th.—11, *a. m.* Has had four or five more stools, and feels much the same as last night; fever entirely gone off; complains of flatulence and oppression in the right hypochondria, which, on more minute examination, appears to be connected with a train of slight dyspeptic symptoms he has laboured under for some time antecedent. He is preparing to get up; ordered the application of the blister, if the pain in the head should recur. Find him drinking moderately of an infusion of bitter herbs, and do not interdict their use.

He says, that while lying in the fit, apparently senseless and motionless, he kept calling for a surgeon to bleed him; but his chest was so oppressed, and his jaws so rigidly locked, that he was unable to raise his voice above a whisper, which was entirely inaudible to those around him.

I saw him again that evening; he was up, and complained only of lightness in the head, and a sense of debility in the back and loins; but this, I was satisfied, arose from nothing but the evacuations he had sustained; for his skin was cool, and all febrile and comatose symptoms had entirely vanished. His bowels continued pretty open for two or three days, at the end of which time he found himself sufficiently strong to return to his usual employment; and his health has since continued unimpaired.

I think this case interesting, not so much from the severity of the symptoms, as the peculiarity of their combination, and the difficulty of connecting them with any intelligible theory. Its leading characteristics were those of sanguineous apoplexy; but the circumstance of the mental powers preserving their integrity, seemed to refer it rather to those singular affections termed cataleptic. On the whole, I feel no doubt that either effusion or congestion had taken place in some part of the brain; but why the mental powers and the organs of articulation should be exempt from its influence; why the respiration should be so extremely oppressed; why the jaw should be so firmly locked, and no other tetanic symptoms manifest themselves, are questions to the answers to which I can find no clue.

The subsequent reactions, though less peculiar than the primary symptoms, were not less interesting. The characters of a febrile paroxysm were unequivocally marked, and arose decidedly from no other causes than the changes which took place in the circulation, consequent on the reestablishment of respiration, and of the action of the heart; and this accords with the curious fact, that, by compressing with a tourniquet a large artery in one of the extremities, the change thus induced in the circulation will sometimes prevent the accession of an expected paroxysm, and encourages me to hope that some useful analogy may be discovered by sedulous observation of the immediate effects of bleeding in other cases of cerebral oppression.

The symptoms of intoxication are to be ascribed, not so much to any local cerebral disorder, as to the excitement in which the brain participated in common with the rest of the system, when that violent reaction took place, which usually succeeds to sudden depression.

As local congestion followed by derangement of the circulation, was manifest in this case, I do not know but that it is one which Dr Armstrong would describe as a case of congestive fever. In attending the lectures of this able physician, it has occurred to me, that he frequently describes under this name, cases which other pathologists would term sanguineous apoplexy; and the line of demarcation is not very distinct. But I am averse to bestow the term fever on affections where there are not those translations of local disorder, which denote the presence of some permanent morbific cause.

With respect to the treatment, I should hope, that even, though it had not been sanctioned by success, there could be no doubt of its propriety; for the indications of cure were so obvious, that it was impossible to mistake them. It was clearly necessary to let blood, to remove the primary symptoms, and equally so to stop the evacuation when the vital powers began to sink; the local stimulants were clearly indicated to restore the balance of the circulation, and I saw no remedies more likely to promote absorption and obviate the ultimate effects to be apprehended from effusion or congestion, than powerful cathartics and mercurial action.

Worcester, March 14, 1825.

XII.

Case of severe Compound Fracture, with Dislocation of both Ankle-joints, successfully treated. By JAMES MITCHELL, Surgeon, R. N. Wooler.

On my passage from New South Wales to Batavia, in the latter part of 1820, during a dreadful gale of wind we were obliged to strike top-gallant masts; in doing so, a seaman of the name of Robert Smith, (æt. 23, and of a phthisical habit), was precipitated from the maintop to the quarter deck, and fell on his feet. The result of this fall, as may be supposed, was dreadful. On examination, I found a compound dislocation of both ankle-joints. The left ankle-joint was in a peculiarly hopeless state. There was an extensive lacerated wound, of four inches in length, at the outer ankle, through which protruded the lower part of the fibula, with the major part of the astragalus attached to it, and showing the joint with lacerated tendons and muscles. The fibula of the left leg was fractured in its centre. The right ankle was dislocated inwards. Several of the tarsal bones were displaced. At the inner part of the right foot under the ankle-joint, there was a small wound through which a tendon protruded, and from which there issued a considerable quantity of arterial blood. Both limbs were pale and lifeless.

I reduced the right ankle-joint as completely as circumstances would admit of, and placed it in splints, and applied spirituous fomentations, &c. As for the left ankle-joint, it was in such a dreadfully shattered state, that by the rules of surgery I was not warranted in attempting to save the limb even on shore, with every advantage of rest, accommodation, and regimen; far less on board of a merchant ship, where those comforts were awanting, and where the ship was rolling and agitated by a succession of dreadful storms that seemed to have no end, and that did not terminate for three weeks after the accident. Under these circumstances I proposed amputation, but he entreated me in so piteous a manner to make an experiment (to use his own words) to save it, that, after explaining to him the dangerous state of his limb, and the probable consequences resulting from such an accident to the constitution, I determined to accede to his request, and I was the more inclined to do so as I thought he would not survive the shock given to his frame. I then dissected away the broken astragalus attached to the fibula, and returned the latter bone into its place, judging it quite useless to return the broken astragalus into its situation, as I supposed it would act as a foreign body in the joint. After this I dressed the wound, placed the whole in a proper position, applied the many-tailed bandage, and placed long splints hollowed out from the thigh downwards to the outer and inner part of the foot; secured his feet by tapes to the bed, so as to obviate as much as possible the rolling of the ship. I then kept both feet wet with spirituous embrocations. After the system had rallied, and the blood began to circulate freely in the vessels, very alarming inflammation came on in the extremities, with strong febrile symptoms. I combated these with very large bleeding, saline laxatives, antimonials, and large opiates, to abate pain. When this inflammatory state had subsided, symptoms of gangrene came on, which I was enabled to remove by topical applications of warm dressings and spirituous fomentations. and internally by bark, opium, wine, and a generous diet. With the two latter he was most amply supplied throughout his cure by Captain M'Kissock, who commanded the ship, and was exceedingly kind to him, administering to his wants from his own table, both in the way of viands and wine; and indeed it gives me great pleasure in paying a just tribute to the liberality and humanity of this gentleman.

In the state of inflammation and gangrene, Smith was so highly delirious at times, that he often tore off the bandages, dressings, and splints. He also had frequent *subsultus tendinum* during these states, so completely as to throw the joints out of their situations. During these states, and for some time afterwards, he was unable to procure sleep without the aid of powerful opiates. After the symptoms of gangrene had been fortunately removed, they were followed by profuse suppuration; and though he was of a phthisical habit, yet by supporting the constitution with tonics and mineral acids, wine, porter, and a generous diet, he got into very good health, and had no hectic symptoms. On account of the rolling of the ship, there was no adhesion for about four weeks. After this the union took place very rapidly, nature in the most singular manner depositing osseous matter in the place of that removed by the accident, and filling up the immense chasm in the integuments, by granulations of a very healthy appearance; the purulent matter was also of good consistence, and healthy colour. In a few weeks after, cicatrization of the wound had taken place to a great extent. In four weeks from the period at which union began to take place in the joints, the feet became so firm that he could move them, and even rest a little weight on them. In ten weeks from the occurrence of the accident, he was enabled to walk about the deck with crutches. In twelve weeks after the accident the wound had healed up, and he was able to walk about merely with the aid of a stick. During the cure various collections of matter took place in the feet; I opened some, and others burst spontaneously, and some small pieces of bone came away from the openings. The sole dressing I used throughout the cure was lint steeped in equal parts of spirit and water, and kept moistened with the same throughout the day, and touching the elevated, or rather exuberant granulations, with the sulphate of copper.

XIII.

Case of Purpura Hæmorrhagica, successfully treated with Spirit of Turpentine. By JOSEPH JOY MAGEE, M. D. Senior Physician to the Dublin Sick Poor Institution.

THE following case of Purpura Hæmorrhagica in which the spirit of turpentine proved an effectual remedy, may not be uninteresting to the profession. I am induced to believe that this valuable medicine has not as yet received the attention, or been employed to the extent, particularly in Scotland and England, to which I am of opinion it is entitled. I have been in the habit of using it for some years past, and have always found it a safe and efficacious purgative, and a powerful auxiliary in the cure of some of the most formidable diseases. In obstinate constipation it stands without a rival. In Enteritis, Peritonitis, Colic, and certain inflammatory or spasmodic affections of the abdominal viscera, it acts almost as a specific, and even in dysentery I have seen the most decided advantage from its judicious exhibition. Indeed it was its efficacy in checking the hemorrhage in the last disease, as I had repeatedly experienced, that induced me to try it in the subjoined case. The dose I am in the habit of giving is, for an adult, half an ounce in conjunction with an equal quantity of *oleum ricini*, with a little peppermint or cinnamon water. I have not found it to answer so well if given otherwise. When given in a smaller dose it generally produces strangury or other unpleasant effects. The power it has of remaining in the stomach, even where there is a tendency to nausea, is remarkable. I have known it to remain even where opiate draughts have been rejected.

Mary Walsh, No. 63, Bridgefoot Street, an intelligent child of 6 years of age, had felt heavy and languid for the last six weeks, without, however, complaining of particular indisposition. Two days ago an eruption of a dark purple colour began to appear on her arms, legs and body. This day (8th of December 1824) the whole of the skin, except the face, on which are only a few spots near the hairy scalp, is covered with these spots. The largest are about the size of a fleabite, from which they gradually diminish to a point. Some, which appear to be more recent are of a florid appearance, exactly resembling the mark left by the bite of a flea. The child says she feels no pain or sickness, only general languor. The skin between the spot is of a dirty colour. The appetite remains unimpaired; bowels free; tongue clean; pulse regular.

℞ *Submur. hydrargyri grana xii. Pulv. antimonialis gr. xvi. M. Divide in partes sex. Sumat i. tertiis horis.*

9th.—Took all the powders; complains of sickness; some vomiting, not bilious; no appetite; tongue begins to be a little black; had no dejection; spots as before.

℞ *Submur. hydrargyri gr. xij. Pulv. scammonii ʒss. Zingiberis gr. iv. M. et divide in partes iij. Sumat. i. tertiis horis ad alvi solutionem.*

10th.—Took all the powders yesterday; had three dejections 'like tar;' some vomiting very black and bilious; tongue, except at the point, quite black; gums spongy; breath very fetid; bled a little this morning from the gums.

℞ *Ol. Ricini, Spirit. Terebinth. āā. ʒij. Aquæ menth. pip. ℥ss. M. ft. haustus statim sumend.*

11th.—Had one dejection of natural appearance; the spots more numerous; large black spots, some as large as a half-crown piece, have appeared on the legs; considerable hæmorrhage from the gums; appears much emaciated; no appetite; mouth and fauces very sore, breath very fetid.

℞ *Olei ricini, spirit. terebinth. āā. ʒiij. Aquæ menth. pip. ℥ss. M. ft. haustus stat. sum.*

12th.—One natural dejection; spots as before; more *vibices;* great hemorrhage; tongue very black; mouth continues growing sorer; great discharge of saliva.

℞ *Ol. ricini, Spt. Tereb. āā. ℥ss. Aquæ menth. pip. ℥ss. M. ft. haus. stat. sum.*

13th.—One dejection very black; much hemorrhage from the mouth; a large sloughing ulcer on one side of the fauces; gums very sore and disposed to bleed; the general appearance somewhat improved.

Repetatur haustus ut heri.

14th.—Two copious melaenic dejections; spots begin to decline (9th day), some hemorrhage; mouth very sore; breath fetid; tongue beginning to look clean about the edges; otherwise very black; the ulcer covered with a slough.

℞ *Decoct. Cinchon ℥viij. Acid. sulph. dil. ʒi. M. pro gargarismate. Repetatur haustus ut heri.*

15th.—Two copious melaenic dejections; spots more effaced; tongue cleaner; little hæmorrhage; general appearances improved.

Cont. gargarisma et repet. haustus.

The draught was repeated on the 16th, 17th and 18th, with good effects, at which time the petechiæ and vibices had entirely disappeared. The only remaining symptoms are debility and soreness of the mouth, which is also rapidly getting better.

I have since had several cases of Purpura which did not assume the hemorrhagic form, solely, I am persuaded, from the use of the turpentine.

XIV.

Case of Tetanus successfully treated. By GEORGE ALEXANDER, M. D. Prince of Wales Island.

JOHN BAPTIST MANUEL, æt. 35, admitted with tetanus. The spasms affected nearly all the muscles of the body, but particularly those of the jaw and abdomen, together with those of the back part of the neck. The abdominal muscles became particularly rigid when touched, and any pressure produced a general spasm all over the body; deglutition extremely difficult, so much so, that in drinking any liquid he appeared as if suffocating; respiration short and anxious; pulse 100, full, and hard; tongue loaded; skin wet with perspiration, but not much hotter than natural; gets little rest at night.

Mittr. sang. ad ℥xl. Admov. abdomini hirud. xxiv. Habt. enema purg. stat. ℞ *Solut. sulph. magnes. ℥j. Infus. sennæ ℥ij. Fiat haust. stat. sumend.* ℞ *Spts. ammon. comp. ʒss. Tinct. castor ʒj. Camphor gr. iij. Aq. menth. pip. ℥iss. Fiat haust. ter in die sumend. Appl. fotus collo et part. spasmo affect. et postea utatur liniment. volat.*

9th.—The appearance of the blood after venesection was buffy and cupped; the abdominal muscles somewhat relaxed; bowels were opened four times from the injection, &c.; dejections brownish colour, and copious, with an offensive smell; urine high-coloured, and scanty; pulse 100, full, and hard; tongue still foul and dry; general spasms much the same; is yet unable to open his mouth, and therefore is nourished only by fluids, and that in small quantities, owing to the difficulty of deglutition.

Mittr. sang. ad ℥xxx. Habeat enema purg. c. olei tereb. ℥j. Reptr. haust. ut heri. ℞ *Pulv. ipecac. comp. gr. v. Pulv. antim. gr. iv. Opii purif. gr. ij. Camphoræ gr. iij. M. ft. bolus hora somni sumend. Appl. fotus et liniment. ut heri.*

10th.—The blood continues buffy; bowels freely opened after the injection; evacuations brown and watery; urine high-coloured, and still scanty; perspiration not so profuse as hitherto.

Reptr. haust. antispasmod. ut antea prescript. et repet. enema purg. c. ol. tereb. ℥j. ut heri. Cont. fotus et liniment.

11th.—Passed an easy night; had no fits of spasms; tenseness of the abdomen considerably diminished; bowels opened four times by the injection; pulse is become full and hard; urine continues scanty, and high-coloured.

Mittr. sang. ad ℥xxviij. Habeat enema ut heri, sed adde gum. assafœtid. ʒj. ℞ *Potassæ nitrat. gr. x. Potassæ supertart. gr. xx. M. ft. pulv. sumat. j. pro re nata. Reptr. haust. antispasmod. ut antea prescript. et contr. fotus et liniment.*

12th.—The blood still buffy; bowels opened twice; evacuations more healthy; spasms continue somewhat relaxed; mouth can be opened a little by force, so as to admit of the protrusion of the tongue, and to take a little nourishment; pulse still full and hard.

Mittr. sang. ad ℥xxviij. Habeat enema ut heri et haust. antispasmod. et habt. pulv. potassæ nitrat. ut antea. ℞ *Gum. assafœtid. gr. vj. Camphoræ gr. iv. M. ft. pil. ij. hora somni sumend. Contr. fotus et liniment.*

13th.—Spasms diminished; pulse full and soft; tongue clean, moist; small pustular eruption has appeared all over the body, filled with a thin opake matter; slept well; evacuations from the bowels rather offensive; urine continues high-coloured.

℞ *Extr. colocynth. comp. et gum. assafœtid. āā gr. vj. Pulv.*

scammon. comp. gr. iv. M. ft. pil. iij. mane sumend. ℞ Solut. sulph. magnes. ℥j. Inf. sennæ ℥ij. M. ft. haust. sumat. stat. et reptr. donec alvus soluta sit. Reptr. haust. antispasmod. ut heri. ℞ G. assafœtid. gr. vi. Camphoræ gr. iij. M. ft. pil. ij. h. s. s. Contr. fotus et linim.

14th.—Passed a good night; the symptoms nearly the same as yesterday.

Habeat enema ut heri, et reptr. haust. antispasmod. ℞ Hydr. submur. gr. v. M. ft. pil. meridie sumend. ℞ Hydr. submur. gr. x. Pulv. ipecac. comp. gr. v. M. ft. pil. ij. hora somni sumend. Contr. fotus et liniment.

15th.—Continues to improve.

Contr. med. ut heri. Sumat. hydr. submur. gr. v. ter in die.

16th.—Spasms diminishing; alvine evacuations offensive; eruptions on the skin increased; pulse full and soft.

℞ Ol. ricini ʒx. Tinct. sennæ ʒij. M. ft. haust. mane sumend. Reptr. haust. antispasmod. ut heri. ℞ Hydrarg. submur. gr. v. Pulv. scammon. cum gr. iij. Extr. colocynth. comp. gr. iij. M. ft. pilul. ij. hora somni sumend.

17th.—Continues much the same; mouth slightly affected; takes some nourishment.

Rept. haust. ol. ricini ut heri, et cont. med.

18th.—Mouth fully affected; urine continues high-coloured; alvine evacuations dark and fetid.

Rept. haust. ut antea. Habeat enema c. ol. tereb. ʒiij. Ol. ricini ℥j. et gum. assafœtid. ʒj. ℞ Extract. colocynth. comp. et extr. aloes spic. āā gr. v. Pulv. scammon. c. gr. v. M. ft. pil. iij. hora somni sumend. Cont. fotus et liniment.

19th.—Spasms somewhat increased during the night; pulse full and hard; skin rather hot, covered with perspiration.

Mitt. sang. ad ℥xxxij. Hab. enema ut antea, et rep. haust. antispasmod. ℞ Aloes spic. extr. gr. v. Pulv. scammon. c. gr. iv. Gum. gambogiæ gr. ij. M. ft. pil. ij. h. s. sumend. Cont. fotus et liniment.

20th.—Spasms relieved; other symptoms nearly the same as yesterday.

Habeat enema ut antea, et rept. haust. ut heri. ℞ Aloes spic. extr. et pulv. scammon. c. āā gr. viij. Gum. gambog. gr. ij. M. ft. pil. iij. hora somni sumend. Cont. fotus et liniment.

24th.—Has been gradually improving for the last four days; spasms of his back and extremities are quite gone; those of the muscles of the jaw still continue; sleeps well; bowels more natural; the medicines have been continued; ptyalism considerably increased. From this time to the 1st of December he gradually improved under the same remedies; the spasms were then quite subsided; a little rigidity in the muscles of the jaw remaining; his general health began to improve, and his bowels became more regular; evacuations yellowish; consistent. He remained a convalescent in hospital till the 19th of January 1824, when he was discharged perfectly well, and in good general health.

When first admitted, he was unable to give any account of himself, so that we remained ignorant of the previous history of the case, until he was able to communicate it. He then told us that he had been left at Acheen by a French vessel; that he was there exposed to the sun without food or covering; that he fell into the state in which he was admitted, and was brought here by a native vessel.

Prince of Wales Island, 15*th January* 1825.

PART II.

CRITICAL ANALYSIS.

I.

1. *An Account of the Disease lately prevalent at the General Penitentiary.* By P. Mere Latham, M. D., Fellow of the Royal College of Physicians, and Physician to St Bartholomew's Hospital. London, Underwood. 1825.
2. *Third Vindication of the General Penitentiary, showing that there is no ground whatever for supposing that the Situation of that Prison had any share in producing the late Disease among the Prisoners confined there. Being an Answer to some Observations contained in a Work Published by* P. Mere Latham, M. D., *entitled,* "*An Account of the Disease lately prevalent at the General Penitentiary.*" By George Holford, M. P. London, Rivington. 1825.

The publication of Dr Latham's book recals our attention once more to the disease or diseases of the Milbank Penitentiary; and, while we do not disguise the painful avowal, that it is with no willing heart we return to a subject which has been the source of so much doubt, dispute, and controversy, both medical and economical, it is our duty to acknowledge, that much of this feeling is removed by the nature of the work, on occasion of which we are led to resume the subject. It is decidedly descriptive and didactic, communicating, in a plain and unadorned style, the result of personal observation, concerning the phenomena and nature of the diseases which prevailed in the Penitentiary, during the spring and summer of the year 1823. Avoiding as far as may be, and even scrupulously, all controversial matter, Dr Latham confines himself to a narrative of those diseases which affected the convicts, (for it now appears that there were several diseases coexisting in the Penitentiary), of the extent to which they were affected, of the influence of their change of situation, and a short inquiry into the probable causes from which these diseases arose. His details are distinct and perspicuous throughout, unmarked by any bias to partial views; and as, unless in the chapter relating to the origin of the disease, his statements are chiefly matter of fact, so he has cautiously avoided all speculation, and, in general, left the reader to form his own conclusions. The whole is comprised in nine chapters.

In the First Chapter, which forms the Introduction, the author commences with a general account of the state of health among the inhabitants of the Penitentiary, when he and Dr Roget were first appointed to the medical management of the institution, in February 1823; and with this view, he introduces the Report of the 5th April, with which our readers are already well acquainted. It is an honourable proof of the candour of Dr Latham, which it is difficult to praise too highly, that, while several circumstances connected with the appearance and subsequent disappearance of the disease, at the date of this Report, gave a considerable degree of probability to the opinions expressed in it, he confesses, that, " as a medical document, it was unquestionably premature;" that the conviction, " that there is now no obstacle to the entire re-establishment of the healthy state of the Penitentiary," was proved, by what speedily occurred, not to have been well founded; and that, " although the opinion of the physicians respecting the sources from which the disease was originally derived, was confirmed by numerous medical men, who were examined on the subject, and was, at the same time, entirely satisfactory to them, and equally so to the Committee,—facts subsequently brought to light, led them to doubt whether this latter opinion was entirely correct." An avowal so frank and explicit, is not less creditable to the philosophic mind than to the liberal and disinterested spirit of the physician who makes it, and is calculated to inspire the most implicit confidence in the correctness and authenticity of all the subsequent statements.

It was indeed to be regretted that Drs Roget and Latham were obliged to report so early after their first acquaintance with the disease, and, above all, that they were obliged to report on causes supposed to be concerned in its production, at a time when all that could be said by any one in reference to the individual disease in question, must have been conjectural, and when, in consequence of its spontaneous amelioration, it was impossible to apply to conjectural opinions the unerring test of experience. A little patience and observation of the course and progress of the disease for some weeks longer, would have assuredly disclosed its true nature; and if the causes, from which it proceeded, were still wrapped in obscurity and confusion, it would at least have been ascertained, that those to which it had originally been ascribed, were no longer to be regarded as genuine. But whether this prudent and cautious delay would have been attended with the effects, which perhaps we have now no merit in predicting, what did take place is abundantly well known; for the results, which were not altogether expected, proved the source of grievous disappointment to the medical attendants, great confusion and some alarm to the Managing Committee, and contradiction and inconsistency of medical opinion almost unrivalled in the history of any epidemic.

" The Report had hardly been made public when the disease, so far as it was referable to the bowels, began to re-appear: by the middle of the month of May it had again pervaded the prison; and by the middle of the month of June, all the prisoners, without exception, who had formerly suffered; and all, with very few exceptions, who had been exposed to its presumed causes, yet had never suffered before; and all, with very few exceptions, who had been admitted into the Penitentiary since its presumed causes had been removed, were involved in the same calamity; and the remedies, which were formerly successful in controlling it, had not now the smallest beneficial influence." p. 23.

Of this comprehensive and indiscriminating malady, then, what was the genuine nature, and what were the true sources? Why did those persons who, having already suffered the disease, had under treatment recovered, again relapse; why was their number now increased by the addition of many who had hitherto escaped or resisted its assaults; why were the new inmates, who had become inhabitants of the Institution, after the diet had been improved, and the weather had become more genial, involved in the same calamity; and above all, why were the remedial means which were previously successful in controlling it, now utterly unavailing? To furnish a satisfactory answer to these natural questions, is the chief object of the subsequent part of Dr Latham's treatise; and if the difficulties of the subject render the inquiry more complicated than was anticipated, and the solution in some respects less complete than could be desired, it will only show the necessity of longer and more careful observation of phenomena, and more deliberate examination of the laws by which they are regulated, and of the circumstances concerned in their production, than it has yet been possible to bestow,—ere positive conclusions be drawn, or opinions be made the basis of practical measures.

The first thing that is learned from Dr Latham's account is, that not one disease but several prevailed in the Millbank Penitentiary. This result, to a certain extent, appeared in the account which we submitted in July 1824, of the Report of the Select Committee and the Minutes of Evidence then adduced. The disease was first stated in the Physicians' Report to be scurvy, and afterwards scurvy complicated with diarrhœa; but in the course of our observations we showed that, though we could not deny the existence of a few cases perhaps of scurvy in the early part of 1823 (p. 118, vol. XXII.), and chiefly on the evidence of Dr Baird, yet this complaint had early disappeared, and was no longer in the spring and summer of that year, the epidemic disorder by which the convicts were so generally and so severely affected. We further made it appear from two tables, accurately compiled from the reports of deaths in the Minutes, that, though various other diseases were in operation among the inhabitants of the Penitentiary, yet the principal one to which the name of *epidemic* could with any shadow of propriety be applied, *was inflammation of the intestinal mucous membrane*, without regard to the nosological distinction of diarrhœa or dysentery,—scorbutic, idiopathic, or symptomatic. (Vol. xxii. pp. 121, 122, 123, 136, 146, &c.) These conclusions are fully confirmed by the account of Dr Latham; but it further appears from his account, that even a greater number of diseases prevailed than we ventured to infer;—or at least, in the language of Dr Latham, that the same disease assumed a greater variety of forms than our mode of viewing the subject would have led to be imagined. Thus, he describes not only scurvy and bowel complaints as affecting the convicts of the Penitentiary, but disorders of the brain and nervous system, a morbid state to which he applies the distinctive name of "the fever," and even intercurrent diseases, or other disorders occurring at the same time, and betraying peculiarities of character, progress, and termination.

It may be the subject of reasonable inquiry, whether our author is correct in viewing these several forms of disease as all belonging to the same general type, as he evidently does; or whether they are not rather to be regarded as so many distinct diseases, or kinds of disease, receiving the modifying influence of some general agent, which was in operation at the moment, throughout the various buildings of the Institution. To commence our observations on the narrative before us with any mere supposition of this kind, would be not only premature, but in some degree preposterous; and if we introduce the mention of it now, it is merely to apprise our readers, that this is almost the only part of Dr Latham's work to which, as being speculative, any reasonable objection could be urged. To avoid, as much as may be, any inconveniences which might result from such a principle of arrangement, it is perhaps safest to regard the forms of sickness observed in the Penitentiary as so many distinct diseases; and as this will neither increase our labour nor lead us into inconsistency, we adopt it in our subsequent remarks.

The form of scurvy, the first disease which appeared in the Penitentiary, will not detain us long. It was evidently mild, and perhaps in many instances was merely that state of the system which, preceding an attack of the disease, may be regarded rather as the predisponent condition, than as the disease itself. Thus, the goose-skin state of the extremities, with the dry imperspirable condition of the skin, and the powdery desquamation of the cuticle, which is mentioned as "found in almost every prisoner, and to a very remarkable degree," is manifestly of this nature. It is justly mentioned as "met with chiefly among the poor, who are ill-nourished and ill-clothed;" but it is not confined to them; for in many instances it is observed in the persons of those who, however careless in the article of clothing, have at least the means of nourishing themselves adequately. Nor is it confined to the scorbutic state; for it precedes and accompanies a considerable number of disorders to which the animal frame is liable. Thus, it almost invariably attends the *marasmus* of young persons, so well described by Dr Hamilton; it is a common attendant of worms, and other intestinal disorders in children; in adults it is found to attend all those forms of derangement of the digestive organs to which Mr Abernethy has attracted so much attention; and it is mentioned by Petit and Serres as a symptom of the incipient stage of their entero-mesenteric fever, (*peau remarquable par son asperité et sa secheresse*). * With some persons even it is constitutional, and during their best health never quits them in the course of a long life. This state of the skin, therefore, which was found so generally among the indwellers of the Penitentiary, cannot justly be regarded as proper to scurvy; but, indicating simply the unhealthy state of the skin and its secreting function, and probably also of the mucous membranes, it may be considered as a predisponent state common to several diseases, which might assume peculiar characters according to the constitution and temperament of individuals, and according to the nature of these circumstances which act as exciting causes.

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* Traité de la Fievre entero-mesenterique, p. 130.

The blue or livid specks ascribed by Dr Latham to blood extravasated beneath the cuticle, had they been large, frequent, or extensively diffused, would have furnished a symptom less equivocal. But the circumstance remarked by him, that, in some in whom they were not larger than a pin head, they appeared "hardly any where, except at the outside of the knee, "near the bend of the hams;" and that, even when as large as a pea, though they showed themselves over various parts of the extremities, they still formed "especially about the hams," is a clear proof that it was but the incipient stage of the disease, and, as the sequel showed, a very mild form. It was only in those cases in which these spots, by coalescing, formed large livid patches, and in which they affected not only the skin but the mucous membranes, that the disease appeared in an unequivocal form, and furnished such cases as those from which the following description is taken.

"In others, together with these specks and spots which have been described, or without them, there were large blotches of an irregular shape, and of such an extent as to leave the legs, or arms, or thighs, or buttocks, almost uniformly livid, with hardly an appearance of their natural complexion.

"In a few there was ecchymosis of the conjunctiva; and in a few, ecchymosis and swelling of the upper eyelid.

"These appearances, occasioned by blood extravasated beneath the cuticle, from the clusters of little livid points about the hams to the large livid patches occupying the whole limb, must be regarded as indicating different degrees of the same disease, by whatever name it is called. Some concomitant conditions, which remain to be noticed, will enable us perhaps satisfactorily to determine what that name ought to be.

"The gums were spongy, and soft, and livid, and disposed to bleed, in all those who had extensive discolorations of the skin; and in those who had mere specks and spots of ecchymosis, their condition, although it might not have been noticed under ordinary circumstances, was far from being healthly; they had a purplish hue, and were tender and sore, and often ragged, just where they come in application with the teeth. In a few, and especially in one man (Henry Peers) the mouth seemed in a state of absolute rottenness, the gums bleeding and broken down, the teeth loose, and their fangs half exposed, and the whole mucous membrane of lips and cheeks black and ragged, while a foul cadaverous smell was emitted with the breath.

"In many who exhibited specks and spots only of ecchymosis, and in all whose limbs were covered with large blotches, the muscles of the legs were perfectly hard and rigid. In a few, the legs were œdematous, and one man (Henry Peers, already mentioned), was universally dropsical." pp. 27–29.

Such symptoms as those last mentioned, constitute unquestionably the exquisite form of the disease termed scurvy; but it is manifest from the words of the author, that they were few in number, and short in duration; that they soon disappeared under the use of suitable regimen and medical treatment; and that they showed no tendency to recur.

"It has been already stated in the Report; says Dr Latham what means of treatment were employed, and how far the scurvy had disappeared when those means had been in use a little more than a month. After the lapse of another month there might still remain several, in whom a very experienced eye could recognise certain little brown spots, as the last and almost worn out vestiges of scurvy; but not more than half a dozen individuals could have been shewn, whom a common observer would have regarded as authentic examples of what the disease had been. These were the few who still exhibited the remnants of large blotches upon their limbs." pp. 29, 30.

From this history of the scorbutic cases of the Penitentiary it is easy to see, that they never assumed a very serious character, and that they were far from constituting the alarming part of the sickliness prevailing in the Institution. No case of scorbutic symptoms appears to have proved fatal of itself; and the few distinct examples that occurred, appear to have been the result of the operation of sundry morbific causes, as the severity of the season, imperfect diet, &c. in individuals otherwise disposed to the disease.

The case was widely different with the next tribe of disorders which appeared,—those consisting in affections of the bowels. These were not only greatly more severe in the sufferings which they caused to patients, and much more formidable to the physician, insomuch as they often endangered life, and were actually the great source of mortality, but acquired peculiar importance in consequence of the varied forms which they not unfrequently assumed. Although, for example, the flux, or discharge from the bowels, was throughout the prominent and most constant symptom, and that from which it derived its name and character, it constituted one part only of the disease. Dr Latham contends that it was neither diarrhœa nor dysentery simply, nor even an exclusive disorder of the bowels, but that it belonged to the whole system; by which we imagine he understands nothing more than that it affected the system at large, while the bowels were severely disordered.

It appears from the account of Dr Latham, that this bowel complaint appeared either in the form of cholera, of dysentery, of ordinary diarrhœa; or lastly, unlike any of these disorders, with stools of a peculiar character.

In the cases which corresponded with the descriptions of Indian cholera, "the patients were seized with intolerable cramps at the pit of the stomach. They retched and vomited, and a thin turbid serum ran from their bowels, followed by severe tenesmus. The pulse became feeble and frequent; they were pale and chilly; and a sudden anguish pervaded the whole frame. Again, there were cases, which corresponded with the common autumnal cholera of this country. The patients had severe griping of the intestines generally, and cramps of the extremities, while pure and unmixed bile ran from the bowels, scalding them (as they expressed it) like melted lead in its passage.

"Moreover, there was every kind and degree of dysentery; some purged pure blood in large quantities; others a fluid like the water in which raw flesh had been washed. In some, the evacuations, otherwise healthy, were just streaked with blood; in some they contained (what seemed to be) lumps of flesh. In others they were mixed with mucus and slime, or they consisted of mucus and slime, altogether.

"Again, there were cases which differed very little from the diarrhœa of common casual occurrence, except that they were quite intractable by common remedies. The evacuations were loose and attended with griping, but feculent and without any morbid quality.

"Lastly, there were cases which had no resemblance whatever, either to cholera, or dysentery, or diarrhœa, or to any disorder that has obtained a name. In the evacuations, there appeared nothing that had any sensible quality of feces, of bile, or blood, or (of what is understood by) mucus and slime. But they consisted sometimes of a mass, like green or black grapes in a state of fermentation; sometimes of a matter like yeast; sometimes they were in colour and consistence like half-slaked lime, when it is beginning to crumble; and sometimes like a thin mixture of chalk and water; and always intolerably sour and offensive, and in enormous quantity." pp. 32–34.

These descriptions unquestionably communicate the knowledge of a considerable variety of alvine discharge; but we are not prepared to admit, that every such difference implies a difference in the disease, or morbid process of the intestinal mucous membrane. There cannot be a doubt, that if we do not trust, in our nosological distinctions, to the mere difference of symptoms, or what may be termed *effects* of morbid action, but look to the morbid action itself, the diarrhœa and dysentery of nosologists are almost invariably to be regarded as different degrees of the same process. Thus it is now well established by the observations of Sir James M'Grigor, Dr Irvine, Dr Dewar, Dr Ballingall, and Mr Bampfield, that even tropical dysentery, both in the acute form and the more chronic one termed *hepatic flux*, commences with much of the appearances of common diarrhœa, namely, with copious, fluid, but feculent evacuations, which are succeeded in the course of the disease by bloody, serous, or mucous, and occasionally bilious discharges.

It is also worthy of remark, that many of the cases of that intestinal inflammation, denominated by Petit and Serres *entero-mesenteric fever*, commenced with diarrhœa enduring for several days. Thus, to take a few examples, in their first case of simple entero-mesenteric fever, the patient first felt himself weakened, "par un leger devoiement qui durait peu de temps;" in their second case, pains of the limbs and general weariness were succeeded in about a week by "un assez grand devoiement," with little fever; in their fourth case, the individual was attacked, on his arrival in Paris, with a very considerable looseness (*devoiement*), which lasted a month, and ceased gradually, leaving his strength impaired, and his digestion bad; and when he was, a few days after, under the symptoms of the fever, his stools were still fluid, and more frequent than natural. In the fifth case, the patient was attacked suddenly in the evening with intense headach, bitterness of mouth, pain in the region of the stomach, and looseness; all which symptoms, after an agitated night, increased during the following days, when the stools amounted to four, were fluid, yellowish, and fetid. In their sixth case, *pustular* entero-mesenteric fever, the patient was attacked, about two months after his arrival in Paris, with a very considerable looseness which lasted eight days, was suppressed for four days by devouring a great number of hard eggs, and returned on the fifth with general weakness, pains and bruising of the limbs, loss of appetite, bitterness of mouth, and some squeamishness without vomiting. In their seventh case, also *pustular*, the individual was attacked, without known cause, with a very considerable looseness, which continued eight days without impairing much the appetite and strength, but accompanied at this time with pains of all the limbs, headach, lost appetite, and squeamishness without vomiting; and in the eighth, general uneasiness, lassitude in all the limbs, and loss of appetite, were succeeded in a few days with severe headach, and very considerable looseness of the bowels.* In short, it is a uniform fact, that all these cases, most of which proved fatal, and exhibited, as we shall perhaps show, unequivocal marks of inflammation, either spreading or pustular, of the intestinal mucous membrane, commenced with several loose stools precisely like an attack of ordinary diarrhœa; yet subsequently as the disorder proceeded, the alvine discharges became mucous or bloody, and were attended with griping and tenesmus, unless in the last moments of existence, where some of the cases appear to have been preceded by the involuntary discharge of a fetid and feculent evacuation.

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* Traité de la Fievre Entero-Mesenterique observée reconnue et signalée publiquement a l'Hotel-Dieu de Paris dans les années 1811, 1812, et 1813, par M. A. Petit, Docteur-regent, &c. &c. A Paris 1813. *passim.*

We may further be permitted to doubt whether there is any thing so extremely peculiar or singular in the fourth variety of flux mentioned by our author; and whether the discharges there mentioned are so unusual as to bear "no resemblance either to cholera or dysentery, or diarrhœa, or any disorder that has obtained a name." There is certainly nothing unusual to those familiar with intestinal disorders in the yeasty stools, which we have often personally witnessed in the course of treating such complaints; and "the mass like green or black grapes in a state of fermentation," is manifestly a slight modification of such discharge. Nor have these appearances entirely escaped the observation of others. Thus Dr Dickson Reide speaks of frothy stools;* and Curtis, in describing the variety of appearances which the discharges presented in the flux accompanying the bilious fever of India, states, that though "it varied at different periods of the disorder, constantly there was a greenish colour, varying from a dun and dusky yellow to a *dark and dirty black*, which last predominates during the febrile period. I have seen them *for weeks of the colour of moss-water*. Sometimes there was more of a red colour, like chocolate or coffee grounds; and when this was the case, with much pain, tumour and tension of the abdomen, the disease often ended in topical inflammation and gangrene of the intestines."† Dr Ballingall remarks, in his account of the hepatic flux of India, that "the evacuations at the commencement of the disease exhibit always something unnatural in colour; it is however difficult to characterize this appearance, more particularly as it varies through all possible shades, *from the darkest inky colour of which feces are ever observed*, to the different degrees of green and yellow; and these various colours often appear alternately. The stools are accompanied with copious discharges of flatus, generally exhibit *a frothy appearance*, and are often attended with a sense of scratching about the anus." ‡ In the descriptions of Mr Bampfield also, we find very various sorts of alvine discharges distinguished. Thus, "in the mild variety, the evacuation commonly consists of a small quantity of mucus of different degrees of tenacity, opacity, or transparency, or of mucus mixed with a small quantity of serous fluid, that is sometimes streaked or tinged with blood;" while, "in cases of the severe variety, the evacuations generally consist of thin mucuos serum, and blood in larger quantities, to which bile is sometimes added; while occasionally the mucus is nearly as thick and tenacious as jelly, and of different shades of colour and opacity." The same author afterwards mentions evacuations consisting of a large quantity of thick white opake mucus, coagulated blood, and a small quantity of serum, forming a liver-like appearance; a *black* fetid substance resembling coagulated blood; a *dark* thick secretion from the liver, like star-jelly; and a thick green jelly, apparently formed of coagulated bile; all of which are manifestly to be regarded as the results of the unusual change induced in the secretions of the intestinal mucous membrane.

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* Diseases of the Army, p. 51.

† Account of the Coast Diseases of India, by Charles Curtis, Edinburgh, 1807 p. 127.

‡ Practical Observations, p. 57.

Nor need it be objected to the collation of these authorities, that they are derived from a disease which is unknown in temperate climates. It cannot be doubted, that although the proper causes of oriental or tropical dysentery exist, principally in the equatorial regions, yet the morbid processes of the human body must be the same everywhere, and, when once commenced, will be attended with the same results. And if we adduce the observations of authors on this disease only, it is because the severity of the affection necessarily attracts that attention to the intestinal discharges which is more rarely or less closely given in European countries, but which is indispensable to the formation of distinct ideas of the endless varieties which these discharges may, during the progress of disease, assume. Of that form of discharge which approaches to the serous evacuations of Indian cholera, we shall subsequently speak more at large.

It was not at all to be wondered at, that in such a disease it was rarely possible to derive very accurate conclusions on its specific nature, degree of severity and probable termination, merely from the appearance of the stools. Experience showed that those who had the extreme symptoms of cholera or dysentery were as likely to recover as those who had simple diarrhœa; and those who had simple diarrhœa were as likely to die as those who had the extreme symptoms of cholera or dysentery. It was therefore requisite to derive a judgment of the nature and severity of the disease from other symptoms, and the state of the belly as to swelling, and the absence or presence of the sensation of pain, the state of the tongue and the organs of circulation, or the presence or absence of fever, were the points to which the principal attention of the physicians was directed.

In some the belly was partially distended chiefly about the epigastric region; in some universally distended and tympanitic; in others collapsed and retracted towards the spine. The tympanitic state of the bowels was much more remarkable in the women than the men; and in many who after the cessation of every symptom, had gained flesh and complexion the belly continued prominent for months. In others again, the belly was soft and natural in every respect throughout the disease. In one only was a circumscribed swelling to be felt, and it depended on enlarged liver.

Pain of the belly appears neither to have been an urgent nor a constant symptom. Some experienced none whatever, unless *before* each evacuation, when the natural urgency to stool appeared to be converted into great suffering; while in others the only complaint was scalding of the passage, or tenesmus *after* each evacuation.

" The majority, however, had some kind of perpetual uneasiness within the abdomen. There was a very general complaint of (what was called) *sinking at the pit of the stomach*. What this sinking is those only know who have suffered it. All patients speak of it by the same name, but do not describe it further. From observing and interrogating those who now complained of it, I suspected it to consist of a certain degree of actual pain, combined with a feeling which is akin to approaching syncope, and spreads from the stomach, as from a centre, over the whole frame. It is a painful and overpowering sensation, as if animal life itself was hurt and lessened.

" Now this sinking was not only present with the bowel complaint, but many suffered it alone, long before their bowel complaint arose; and many still suffered it long after their bowel complaint was gone. In the one case, it gave notice that the disease was approaching, before its more characteristic symptoms arrived; in the other, it was an evidence that, although its more characteristic symptoms had subsided, the disease had not actually ceased." pp. 36, 37.

In many other instances, a very general symptom appears to have been, pains occupying various parts of the belly and contiguous parts indifferently, liable to subside and return in paroxysms, felt in the seat of the stomach or of the bladder, or about the navel; sometimes bordering on the loins or shooting round to the back. Though after a certain time they were mitigated, yet they did not entirely cease; and though pressure carefully and uniformly applied over a large surface, would relieve the severity of a paroxysm, it was followed by aggravation of the pain when the paroxysm was over. These peculiarities induce Dr Latham to infer, that though these pains were principally of the nature of colic, yet that part of them which was constant and least severe, but was aggravated by pressure, arose from the diseased state of the bowels.

The general cleanness of the tongue, and the calm and unaccelerated condition of the organs of circulation, were not less remarkable characters in the distemper.

" In the great majority of cases," says Dr L., " whatever was the kind of flux, whether cholera, or dysentery, or diarrhœa, or any other of the disorders described, whether it was severe or mild, the tongue, during the whole course of the complaint, was quite clean and moist, and of its natural colour. All the physicians who visited the Penitentiary were struck with this anomaly. In a few cases, it might be a little more red than natural ; in a few loaded with mucus ; and in a few, even brown and dry ; conditions which seemed determined by the presence of fever ; but in no single case was there the red and glossy and smooth tongue peculiar to dysentery, and in no single case was there the slightest appearance of aphthæ.

" With respect to the pulse, in a few cases it had frequency and strength enough to require bleeding, and in a few it had frequency and strength enough to require some means of depletion short of bleeding. But in the great majority of cases it had no morbid character, which called for the employment of blood-letting or any other kind of depletion, and in many it had no morbid character whatever." pp. 39, 40.

An extreme form of this malady is delineated with great force of conception and clearnesss of language in the following account.

" Two cases, which occurred soon after our first employment at the Penitentiary, made a striking impression upon our minds. They had arrived, by a slow, and certain, and uninterrupted progress, at their fatal termination. The patients had no other symptoms of disease but a simple diarrhœa. They had no pain, no fever ; their pulse was sixty, and no more. Never did I witness the process of dissolution so lingering. In the very act of dying, when the pulse could only just be felt, it had not exceeded sixty. Their purging was incessant and incontrollable ; but there was no morbid quality in their evacuations, except that they were watery. One of these patients (a female) was examined after death, and the only traces of disease discovered, were three or four small spots of ecchymosis at the upper portion of the large intestines, without any appearance of vascularity or inflammation in their neighbourhood.

" In process of time, cases became more and more numerous, consisting of simple diarrhœa alone.

" Many poor wretches thus affected were given up by us as lost, and were just ready to perish at the time when we first resorted to the use of mercury. They lay in bed without fever ; without pain ; without excitement of the pulse ; but with a turbid water continually running from their bowels. This was their only symptom ; and this nothing could restrain. Their complaint (as long as they did complain) was of ' that dreadful sinking. ' But now their complaining had ceased. Being roused, they looked up for a moment, but made no lamentation, and then laid their heads down again in despair. It was a dismal office to watch over their tardy dissolution, and witness the frustration of every expedient for their relief." pp. 41–43.

These descriptions unquestionably communicate the idea of a peculiar distemper, though not absolutely unknown, as we shall presently take occasion to show. The absence of severe abdominal pain, the cleanness of tongue, and the calmness of pulse, however remarkable in an intestinal disease, attended with uncontrollable diarrhœa or dysenteric evacuations, are not unfrequent phenomena, and are to be ascribed not only to the kind of inflammation, but to the particular membrane in which the morbid process is principally seated. In our former observations, we took some pains to show that the disease of the Penitentiary consisted in what we termed *Enteria*, or inflammation of the intestinal mucous membrane. The proofs on which we founded this opinion, were chiefly our personal knowledge, that a disease, of which the principal characters were numerous fluid evacuations in the course of a daily revolution, without much apparent constitutional disorder, could not reasonably be referred to any other head; and that, while we had reason to complain, that among so many deaths so few had been made to furnish the testimony of dissection, we were satisfied that the appearances disclosed in these two cases afforded an unequivocal confirmation of this opinion. It might perhaps afford matter of self-gratulation to find, that the descriptions of the dissections, as now given by our author, still more certainly confirm this view of the pathology of the disease, if it did not appear that Dr Latham doubted how far they afford a full explanation of the disease, and if we did not conceive it to be our duty to show, that there was nothing very extraordinary in this confirmation; and that, whatever the mere doctrines of the schools might say regarding the pathology of diarrhœa and dysentery, various facts in the history of diseases concur to show, that in a very large proportion of instances, they are to be regarded as mere symptomatic effects of the morbid process we have now mentioned under the name of *inflammation of the mucous membrane of the intestines.* It is therefore quite unnecessary to make any apology for requesting the attention of our readers, for a short space, to the lights which may be thrown on this subject by a short collation of the researches of certain physicians not entirely unknown to the medical world.

The notion that inflammation of the intestinal mucous membrane would produce diarrhœa; and its converse, that diarrhœa might in some instances depend on inflammation, appears to have occurred to several pathological observers at least fifty years ago. That it was thought that dysentery arose from this cause, is evident from the language of Dr Andrew Wilson, who, in his treatise on the epidemic dysentery of Newcastle in

1758, expressly describes it as "a painful inflammation primarily affecting the *inner coat*, but gradually extending itself through the whole substance, or all the coats of the great guts." And that a similar view was taken of diarrhœa and other intestinal discharges, may be easily shown from the writings of those who, uninfluenced by hypothetical opinions or nosological distinctions, were desirous to found their practical measures on the evidence of facts disclosed by morbid anatomy, and those general principles which result from the judicious comparison of the structure and properties of the animal tissues.

To pass over the instance recorded by Morgagni in his own person, to which we adverted on a former occasion, * and others mentioned in his thirty-first Epistle, we find Frederic Ludovic Bang, in his Reports of the Royal Hospital of Copenhagen, more than once adverting to cases of diarrhœa in which he suspected intestinal inflammation. In November 1782, he mentions an instance of diarrhœa which had commenced with some discharge of blood, and had afterwards been mucous and feculent, and in which pain of the middle of the belly augmenting gradually, and becoming permanent, a bitter taste, loss of appetite, and quick tense pulse being believed to indicate inflammation, he caused venesection to be performed three times, with the effect of removing the pain, and stopping the fluid discharges. The blood in this instance was buffy. † Afterwards, in his Report for September 1787, he mentions the case of a female who had laboured under vomiting and painful looseness (*laxitas alvi dolorifica*), for two weeks before admission to the hospital, and in whom the increase of abdominal pain, after taking food, made him suspect a tendency to inflammation (*pronitatem quandam ad phlogosin*). When, in other reports, he has occasion to speak of the nature of cases in which looseness, with abdominal pain, were the prominent local symptoms, he expresses himself still more distinctly as to the fact of the inflammatory process being confined to the intestinal mucous membrane. Thus he records, in October 1783, a case, in which spontaneous vomiting and looseness for eighteen days, were followed on the twenty-second day with cessation of vomiting, but continuation of the diarrhœa for fourteen days longer, with aphthous tongue and weak pulse. The phenomena of this disease are to be ascribed to *enteritis* only, " verum alvi conjuncta laxitas et febri eventus simul suadent *inflammationem haud in musculosa sed tantum in*

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* Account of the Researches of M. Andral, in Vol. XXIII. p. 165.

† Selecta Diarii Nosocomii Regii Fredericani Havniensis, Tom. I. p. 47.

villosa ponendam esse tunica, quæ pari modo ac membrana linguæ per aphthas separata, sine ulteriore mora abscessit. * In like manner, in the report of March 1785, is mentioned an instance of intestinal disorder, in which the symptoms, according to Bang, indicated inflammation, but of that superficial and slighter sort, " quae modo tunicam villosam occupaverat. " †

These instances are undoubted proofs that Frederic Bang was familiar with the peculiar nature of inflammation of the intestinal mucous membrane as a cause of diarrhœa, and that he saw grounds for distinguishing it from inflammation either of the peritoneal covering or the celluloso-muscular substance of the bowels. It is remarkable, that the opinion thus suggested on the evidence of individual facts to the Danish physician, was much about the same time announced by Dr Carmichael Smyth, on the ground of general pathological reasonings. " I think it also probable, " says this writer, in his observations on the different kinds of inflammation, " (for we can have no positive evidence of the fact) that in diarhœas from catching cold, the *villous or interior coat* of the stomach and intestines is sometimes slightly inflamed. But although the inflammation of those membranes is one and the same, the symptoms, depending chiefly on the particular function of the part, are extremely different. Thus, what occasions sneezing in one place excites coughing in another, and purging in a third. " ‡

It is manifest, that similar ideas regarding the pathology of diarrhœa had been suggested to Willan, who, in his Report of the diseases of London for the spring quarter of 1800, makes the following remarks. " Diarrhœa often takes place when perspiration is suddenly checked by the interchanges of heat and cold in spring or autumn. It is attended with slight shiverings during the day, with a burning heat of the skin at night, with pain of the back, thirst, a quick pulse, whiteness of the tongue, and loss of appetite. These symptoms continue from four to eight days; many persons are affected with *under circumstances, wherein others of a different constitution would have a coryza or catarrh.* The alvine discharges are numerous, large and watery, but without much pain. In autumn this complaint frequently assumes the form of dysentery; in the spring but seldom. I must however observe, that in March, April, and part of May last, the disease was protracted beyond the usual limits, and terminated with severe gripings and tenesmus, with discharges of blood, mucus, and sanies." * It cannot be accounted an unnatural inference to say, that Willan here alludes to that form of disorder which Carmichael Smyth regarded as an intestinal catarrh,—a term which is frequently used by Bichat † and other foreign authors, and by Irvine ‡ and Hennen in this country; § and his minute description of the symptoms, general and local, shows that during their presence he believed the state of the intestinal mucous membrane to be the same as that of the bronchial membrane during catarrh or bronchial inflammation.

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* Selecta Diarii, Tom. I. p. 151.

† Ibid. Tom. II. p. 53.

‡ Medical Communications, Vol. II. p. 210.

But if we find these traces which appear to us sufficiently distinct, in the writers of the last age of medicine, they become still more undoubted the nearer we approach to the period of our own own personal knowledge. We possess records of two instances in which an intestinal catarrh, or inflammation of the mucous membrane of the bowels, affected such numbers of persons at the same time, that in one instance it appeared to depend on endemial causes, and in the other it is described by the physician who observed it, as an epidemic. The first of these instances is an epidemic diarrhœa, which took place at Vienna in the summer of 1809, and of which Valentine Edler von Hildenbrand has given a good account in the second part of his Ratio Medendi of the Medical School of that city; and the second is the disease described by MM. Petit and Serres under the name of Entero-mesenteric fever, as prevalent in various parts of Paris, but especially at the Hotel-Dieu, during the years 1811, 1812, 1813. It is an interesting feature of the medical histories of these two examples of intestinal distemper, that they are not less valuable contributions to the history of practical medicine, than instructive commentaries of the disease of the General Penitentiary at Milbank. And if in some respects the observant eye can trace defective points which result from the influence of hypothesis, or too limited observation, it will not fail in others to recognise those traits of resemblance which proceed from the faithful representation of the same objects. MM. Petit and Serres called their disease an *Entero-Mesenteric Fever*, because they had to learn that inflammation of a mucous membrane is attended with local symptoms, so obscure that they are lost in the more obvious constitutional derangement. The patient and learned Hildenbrand looked on the disease of Vienna as a *typhous diarrhœa*, because he was aware that contagious fever had been prevailing extensively and severely through the towns and cities of Germany, and because, however obvious the intestinal symptoms were, the febrile phenomena were supposed to generate them, or at least to aggravate them; but we shall show, that in whatever veil this disease is wrapped, in whatever mask it may be disguised, it is in all circumstances inflammation of the mucous membrane of the bowels.

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* Reports in Miscellaneous Works, p. 555.

† Anatomie Descriptive, Tom. II. pp. 447, 471, 487.

‡ Some Observations upon Diseases, &c. p. 82.

§ Letter apud Somers.

The diarrhœa or dysentery of Vienna is the first in order, and it presents in many points of its character a remarkable similarity to the disease of the General Penitentiary. It is well known, and is remarked by Hildenbrand, that typhus or the war fever, (*Der Kriegs-Peste*) which had made its appearance during the Austro-Bavarian campaigns, was frequent and extensive at this time (1809); and it further appears, that a common and troublesome symptom of this fever began to show itself in diarrhœa or dysentery, which appeared not only in cases occurring in private practice, where every attention to comfort and cleanliness was given, but in a much greater degree in public hospitals, and most of all in the camp establishments, where it was so deplorably and irresistibly fatal, says our authority, that every typhous case attacked with diarrhœa, was in camp practice generally given up by the physicians. In the mean time, a pernicious diarrhœa appeared among both soldiers and civil inhabitants, spreading insidously, yet attended with no fever, or only in a slight degree. It began with wandering, intermitting, and sometimes very slight griping pains, (*tormina*) followed by shiverings, alternating with heat and sweating, anxiety, loose stools, not very fetid, but greatly augmenting the weakness and lassitude after each discharge. The head was very clear, *the tongue clean*, taste not bad, the thirst moderately increased, and the urine scanty. There was either *no fever*, or it was so slight, that the patients were not put to bed, but walked about, performed various duties, and ate with avidity to their hurt. Some in whom the febrile symptoms were active, were tortured with severe griping pains, dysenteric tenesmus, and bloody discharges. Such were either cured or died quickly.

Those who appeared to have no fever, slight or no bowelach, (*enteralgia*) discharges neither copious nor very frequent, unless effectual treatment was commenced at the first, fell into habitual and obstinate diarrhœa, terminating in colliquescence and chronic languor. This result, which was more common during the cold moist weather of autumn, came on in the following manner. The discharges became more frequent and abundant, the flesh wasted, and the strength decayed *without* *marked fever ;* the patients were compelled to totter to their beds with cold extremities. They became fatuous, and lost confidence in medicine; the skin, especially the countenance, became œdematous, with an expression of premature old age; thirst was importunate, craving for food insatiable, which seemed to cause incessant lientery or abundant stools of undigested food and watery fluids. At length insensibility of the belly, palsy of the sphincters, and marble chillness of the surface, were gradually followed by death from true debility, while the mind continued serene to the last.

The duration of this disease continued to the second or third month, and most patients died in the months of October and November. In general fewer infants and women were attacked than adults and men; but the mortality among the latter was greater, and in hospitals than in private practice. After this description, it must be superfluous to enter into minute comparison of the characters in which the disease now described resembles that of the General Penitentiary; for it would only give rise to repetition.

We think our readers will experience no difficulty in recognising a very general and striking similarity, not only in the symptoms of the complaint, but in the kind of subjects, women chiefly, to whom it appears to have proved most fatal. Hildenbrand regarded it as an *intestinal catarrh*, or *catarrhal diarrhœa*, originating from suppressed perspiration impelled to the bowels; and he thinks this opinion is confirmed by the nature of the previous causes, the febrile commencement, the slight intestinal inflammation (*inflammatiuncula*), morbid sero-mucous secretion, its transition into habitual and obstinate mucous discharge, its slow course, but, above all, the changes disclosed by dissection. These were serous fluid in the peritoneal cavity, redness or lividity, and vascularity of the *inner surface* of the lower tract of the small intestines and beginning of the colon ; in some instances, of its whole length to the rectum ; and in the more chronic cases, aphthæ or gangrenous spots of the bowels, and serous fluid in all the serous membranes. With the symptoms already noticed, especially the sero-mucous discharges from the bowels, and with these appearances in the intestinal mucous membrane, it is of no consequence to the question, whether suppressed perspiration was the immediate cause or not ; it is manifest that this membrane was inflamed, and that this inflammation gave rise to the symptoms of diarrhœa or dysentery. Our readers also will not fail to remark the resemblance which some of the Vienna cases bore to the *choleroid* cases of the Penitentiary.

We have already had occasion to refer to the second epidemic when speaking of the transition from mere looseness to absolute dysentery; and, in a former Number, we spoke of it as a disease which there is strong evidence to believe is endemial in the city of Paris. At present, we shall confine our remarks to those features in its history, which illustrate chiefly the nature of the disease of the Penitentiary.

When we compare the disease described by Dr Latham with that observed by MM. Petit and Serres in the Hotel-Dieu, the first circumstance that attracts attention, is the similarity of physiognomical expression, and general air of despondency, the same undisturbed state of the circulation, and the trifling degree of abdominal pain. "In the patients of the Hotel-Dieu, the countenance bore an expression of despondency and melancholy; the eye was dull; the complexion colourless and livid, especially round the lips and nostrils; they lay supine, averse to motion, and the skin was remarkable for its roughness and dryness; they were sluggish, inactive in their intellectual faculties, which, in other respects, were unimpaired; and they answered questions slowly, but correctly. Fever was either entirely wanting or indistinct in the course of the day; more marked in the evening and night; the paroxysms returning gradually, without shivering or sudden increase of heat, were however attended with injection of the sclerotic, and generally raving; yet it is remarkable that this last symptom, which was never very active, could be readily suspended by arresting the attention by questions. The thirst was considerable; the teeth dry; the tongue superficially covered with a dark-grey coating; the alvine discharges consisted of bilioso-serous fluid, varying in number and quantity, but always inadequate to account for the loss of general strength; the belly was pliant, and without tension or swelling (*nullement meteorisée*), with *little or no spontaneous pain*; but if the belly was pressed a little deeply at its lower part, especially toward the right, between the spine of the ilium and the navel, the patient betrayed the pain which he there suffered by complaint; and, independent of which, this sensation became manifest by involuntary retraction of the lips and nostrils, and expression of pain over the whole countenance." *

Our readers are already aware of the variability both of form and degree which the disease of the Penitentiary assumed; and while one of its forms unquestionably bears a close resemblance to the disease here discribed in its common and simple character, it appears, that in some instances its greater severity, rendered it not unlike other forms of the Penitentiary malady. In these more serious cases, the air of despondency and melancholy was more distinctly marked, the general tint of the countenance was more dull and earthy, the cheeks of a livid violet; the eye gloomy, sunk, and injected; the fever was uninterrupted, but aggravated in the evening with frequent feeble pulse, brown tongue, and considerable thirst; while the belly was painful sometimes at its lower part, right side, without meteorismus; in other instances more extensively with meteorismus, and the stools were serous and fetid, most generally numerous.

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* Traité de la Fievre Entero-Mesenterique, p. 131.

We think it is not difficult to perceive a close resemblance between this entero-mesenteric fever and the more ordinary forms of diarrhœa and dysentery observed in the Penitentiary. The entero-mesenteric fever of the Hotel-Dieu, may indeed be regarded as the exquisite form of this disease; and the several degrees of severity in which it affected patients, from mere superficial inflammation, or congestion, or even bloody injection, down to absolute ulceration, afford every possible illustration of the nature of the disorder. Let the autoptic description given by the physicians of the Hotel-Dieu, for example, be contrasted with the details of morbid appearances recorded in the work before us.

"They were principally," says Dr Latham, "of three kinds, ecchymosis, congestion of the small blood-vessels, and ulceration; the two first belonging exclusively to the mucous membrane; the last beginning in the mucous membrane, but subsequently extending to contiguous structures.

"The *ecchymoses* were always of small extent, and few in number. I do not recollect an instance in which they occupied a space much larger than the diameter of a pea, or exceeded the number of five or six throughout the whole tract of the intestines. They were found indifferently in all parts of the stomach and bowels." p. 44.

"With respect to congestion of the small blood-vessels, those who are accustomed to the examination of dead bodies well know, that nothing is more common than to find parts of the intestines changed from their natural colour, without any sensible alteration of their natural texture. These parts of the intestines assume every shade, from an indistinct blush to the most vivid scarlet and the deepest black. In its more intense degrees, the discoloration is seen as soon as you open the cavity of the abdomen, and appears at first to pervade the whole mass of the bowel in the situations which it occupies. Upon farther examination, however, it is found to appertain especially to the mucous membrane, and that the essential condition out of which it arises, consists of an inordinate repletion of the minute blood-vessels.

"These discolorations of the mucous membrane were frequently remarked in the intestines of those who died at the Penitentiary. They occupied indifferently all situations in the course of the intestinal canal, and often various situations remote from each other in the same individuals.

"They were peculiar, in assuming the form of small patches, which were more distinctly circumscribed, and less shaded off into the surrounding parts than I had been accustomed to see them. There were perhaps, in the course of the intestines, half a dozen of these patches, each an inch or two in diameter, and no more, and of a deep and uniform red, while the membrane in its neighbourhood preserved its natural pale colour. Their deep and uniform red gave them the appearance of spots of extravasated blood. When, however, the portions of the intestine to which they belonged were held up to the light, it was manifest that the blood was still contained within the blood-vessels." pp. 45, 46.

"The abdomen," says MM. Petit and Serres, "appeared at first sight in its natural state; the alimentary canal presented nothing remarkable till beyond the middle of the ileum. Here we began to perceive outside the bowel oval-shaped spots of a wine colour, occupying the antimesenteric part of the tube; they increased in number and size as they approached the cæcum, and beyond this point they were rarely found. When the bowel was handled in the place occupied by these spots, it was felt to be thicker than elsewhere."

"When the alimentary canal was opened, beginning with the stomach, it presented nothing unnatural unless at the situation occupied by the spots now mentioned. But here were seen patches of an elliptical shape, distinctly circumscribed, formed by a slight puffy swelling of the mucous membrane, round the margin of which this membrane was in its natural state. These patches were few and indistinctly marked in the upper end of the bowel, where they were first observed, but became more numerous, broader and thicker, as they approached the ileo-cæcal valve. Here we have several times seen them an inch and a half, and even two inches broad, rising more than a line above the surrounding surface, and confusedly accumulated, so as to obstruct almost entirely the cavity of the intestine. We perceived there no trace of *valvulæ conniventes*, which appear to have been destroyed in the formation of the patches. The wine-coloured spots then, which were mentioned above, were nothing but these patches, which could thus be seen through the transparent peritoneal coat of the bowel."

"Beside this sort of alteration, we several times found isolated pustules more or less numerous, scattered here and there over the inner surface of the intestine, which attentively examined, did not appear to differ from the patches already noticed. Such were the two extremes, continues M. Petit, of what we call the state of congestion (*engorgement*). In several cases in which the disease had been very severe, very active, and speedily fatal, the organic lesion had not proceeded beyond the period which we have now described."

In other instances the local inflammation had proceeded to a more advanced stage, and formed ulcers in various spots of the intestinal tube. But we must previouly notice the description of this stage of the process by Dr Latham.

"The ulcers, which were found in the bowels of several who died of this disease, did not occupy especially those situations in which ulcers are most commonly met with, namely, the termination of the small, and the commencement of the large bowels, but all situations indifferently. They were generally few in number, and occurred at distant intervals throughout the whole tract of the intestines. Sometimes (most frequently) they did not exceed in diameter the size of a pea, and were of a circular shape. Sometimes they were large and irregular, occupying in diameter a space of one or two inches. They did not appear in the midst of an inflamed surface, but were circumscribed and distinct, while the mucous membrane in their neighbourhood was of a perfectly natural colour." p. 47.

"When the duration of the disease," say Petit and Serres, "was longer, the lesion of the intestine and mesentery was not confined to mere congestion. The intestinal patches nearest to the ileo-cæcal valve, and the corresponding mesenteric glands were partly destroyed by ulceration and suppuration. The patches were then depressed, scarcely rising above the surrounding surface, and of a darker and more livid tint. On one or more points of their surface, we found small rounded ulcers from three to six lines in diameter, the bottom of which was sometimes covered with thick blackish sanious layers, in other instances clean, and exposing without change the muscular fibres and the peritoneal coat of the intestine."

The physicians of the Hotel-Dieu here trace the progress of the morbid action from mere congestion or bloody injection to the state of ulceration. They find the bloody patches depressed, and dark-coloured, ulcerated specks on their surface, which eventually, had the patient lived, must have spread over the whole extent of each patch. It is not altogether without interest to remark the manner in which Dr Latham leads his reader, by a route very slightly different, to a result substantially the same.

'These ulcers had a certain correspondence with the ecchymosed spots and vascular patches already described. They were of the same size and shape, and, like them, they were found at intervals remote from each other, and without any marks of inflammatory action around them. These considerations led to the belief that, what was now an ulcer, had before been a spot of extravasated blood, or a patch of small blood-vessels in a state of congestion, and that one had terminated in the other. The ecchymosed spot, the vascular patch, and the ulcer, were found all three together in the same bodies; and the two first were sometimes found alone, and sometimes together. But the ulcer was in no instance observed without one or both of the other two. Indeed, the vascular patch was sometimes met with in (what appeared to be) its state of transition into an ulcer. In the space which it occupied, the mucous membrane was rough and unequal to the touch, and, upon close examination, appeared visibly corroded.' p. 48.

'Generally there was a mere absorption of parts in the space which the ulcer occupied, constituting the simplest kind of ulceration. But occasionally there was something more than this. A foul yellow matter appeared in the centre of the ulcer. This matter was either the sphacelated structure of the bowel itself in the process of separation, or it was a morbid secretion proceeding from the ulcerated surface.' p. 49.

This account is perhaps more minute and more satisfactory to the pathologist; but it still presents esentially the same delineation and the same objects. And even in the next paragraph of Dr Latham's account, we find the expression of the French physicians, "tantot net et laissant appercevoir à nu et sans alteration la fibre musculaire et la tunique peritoneale," little more than expanded.

'The ulcers were discovered at various stages of their progress in different bodies, and in the same body. Sometimes they had reached as far as the muscular coat of the intestines, and sometimes as far as the peritoneum, which alone remained to preserve the continuity of the bowel in these situations. In a few instances the perforation was complete; for they had penetrated the peritoneum, and reached the cavity of the abdomen.' p. 49.

The last result, though it had not occurred in any of the cases recorded by Petit and Serres, is nevertheless merely a greater degree of the same morbid process which produces the intestinal ulcers, and was fully considered by us in our account of the researches of M. Andral. *

The circumstance of these organic changes being found in their several stages in the same subject, is noticed by Petit and Serres, for the purpose chiefly of stating, that the more advanced were near the ileo-cæcal valve, and of fixing the locality of this malady in the lower part of the small intestine. It does not

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* Vol. XXIII. p. 170.

appear that the dissections of Dr Latham have led him to the same inference; for though he admits that this is the most common situation for such ulcers, yet he positively asserts that they occurred in the case of the Penitentiary disease in all situations indifferently. On this subject we may again refer to our account of the researches of M. Andral, p. 167. Vol. XXIII., where the relative frequency of ulcers in the different regions of the alimentary canal is exhibited in a short table.

So far as we have hitherto examined the account of our author, he allows that those conversant with morbid dissections will not recognise any thing new in these states of ulceration. One appearance, however, not unfrequently met with in the dissections of the Penitentiary, was then unknown to him. This was the progress of ulcers towards reparation. "It is a question, I believe, whether ulcers of the bowels be capable of reparation at all. Here, however, there seemed to be sufficient evidence that they were so." Now, it is further a curious circumstance in the literary history of this disease, that this very question occurred to the physicians of the Hotel Dieu; and they have actually published two cases in which death took place from other diseases, while the process of healing was going on,—in order to demonstrate its possibility, and to explain the mechanism, as they term it, by which it is effected. Notwithstanding this anticipation, however, in establishing a pathological fact, which is of no small importance to the practical physician, it would be not only ungracious, but unjust, to refuse Dr Latham the merit of describing, in a clear and instructive manner, a subject which has been considered by no English author, if we except the curious observations which Dr Donald Monro has left us, in the Essays Physical and Literary of this city. His description is as follows.

'In several bodies, which we examined, one, or two, or three little spots were found, corresponding in shape and size with the smaller ulcers, which have been noticed, where there was no remaining character of ulceration, but the mucous membrane apparently drawn and puckered, and its continuous smoothness interrupted. At these spots, closer examination, by help of a lens, discovered a circular margin, which was slightly elevated, enclosing a space which was slightly depressed. This space had a reticulated appearance, formed by minute white filaments of lymph, crossing each other in various directions, among which small red blood-vessels were visible. There was no unusual vascularity of the mucous membrane in the neighbourhood, nor any alteration of its natural colour; so that these little spots would probably have escaped our notice, had we not been habitually minute in our examinations. In a few instances, however, we were led to them by observing a peculiar condition of the peritoneal coat, which seemed here and there gathered up and drawn to a point, appearing externally as if a small portion of the intestine had been taken up by the forceps and tied with a ligature on the inside. Wherever such was the condition of the peritoneum, upon examining the bowel within we found an ulcer in (what I presume to be) the course of reparation exactly opposite to it. It is probable that, where such was the appearance of the bowel externally, the ulcer had originally extended to a considerable depth; that it had reached perhaps beyond the muscular coat, and that its reparation was in some sort necessarily effected at the expense of the peritoneum. Granulations springing from the bottom of the ulcer, as they contracted and coalesced, would pucker and draw together that part of the peritoneum from which they grew.

'Now it can hardly be doubted, that the conditions which have just been described really arose from ulcers in the course of reparation. They were found in the same bodies with ulcers in a progressive state, and with spots of ecchymosis, and patches of vascular repletion.' pp. 50–51–52.

Such is the account of intestinal ulcers in the course of healing, by Dr Latham, derived from cases of bowel complaint, in the General Penitentiary, in 1825. It may be amusing to our readers to contrast the account of the same process, as given by MM. Petit and Serres in 1813, as it was traced in cases of entero-mesenteric fever in the Hotel Dieu of Paris.

" At first, on the middle of the intestine, we found patches an inch broad, formed by a group of small black points, and not making the slightest elevation on the inner membrane; a little farther down we saw other patches, the centre of which was still prominent, but the margins of which were insensibly confounded with the rest of the bowel; lastly, towards the lower margin, the patches were all ulcerated, of considerable size, though not very prominent. Surveying them attentively, we perceived that the ulcers were cicatrized, and we proceeded to trace the mechanism of the process.

" But before unfolding this mechanism, let us recal the disposition of these ulcers. Their open or ulcerated surface is longer exteriorly, as seen through the peritoneal membrane, than on the inside or mucous surface of the bowel, where it is detached, indeed, from the muscular layer for a certain space, and round the entire circumference of the ulcer.

" Cicatrization is accomplished in the following manner. The mucous membrane is first united to the muscular from which it had been separated; this re-union appears to be effected by means of cellular tissue, as is shown by the facility with which it is ruptured in recent scars, and by the effects of long maceration. When this union is effected, the ulcer is of the same dimensions within and without, and the mucous membrane was no longer floating within the intestinal canal."

"But the whole circumference of the ulcer still presented a sufficiently prominent ring, (*un bourrelet assez saillant*), which made it appear deep. As the cicatrization advanced, this eminence became flattened, and approximated the edges to the centre of the sore. Of several ulcers which were still in this state, the longitudinal shape gave them a close resemblance to a button-hole,—while the fibres of the muscular layer were distinctly seen at the bottom." Here we remark, that the "bourrelet assez saillant qui le faisait paraitre profond," of Petit and Serres, is quite the same as the "circular margin which was slightly elevated, enclosing a space slightly depressed," of Dr Latham.

"Lastly," continue the physicians of the Hotel Dieu, "when cicatrization was completed, we could distinguish only a greyish line, the length of which marked the original dimensions of the ulcer, while the peritoneal membrane presented a slight puckering (*froncement*) in the spot corresponding to these cicatrized sores. To unfold this mechanism, we macerated the intestine for two days; then, with a very delicate bistoury, we broke this greyish line, and by a slight degree of force, we gave the ulcers their original size and shape." It is easy to see that the "leger froncement" which the peritoneal membrane here presented, is precisely the same as that condition which Dr Latham describes as "here and there gathered up to a point, appearing externally as if a small portion of intestine had been taken up by the forceps, and tied with a ligature on the inside."

From these appearances, which were confirmed by the result of several dissections, MM. Petit and Serres inferred, 1*st*, that intestinal ulceration which is the consequence of inflammation, is not mortal of itself; and, 2*d*, that it is susceptible of cure, and that cicatrization takes place here in the same manner as in other parts." The coincidence which we have here shown, however it diminishes the mere originality of Dr Latham, is important in a scientific point of view, as a mutual confirmation of the general accuracy of the two descriptions; and if Dr Latham is not acquainted with the researches of the French physicians, as his book appears to show he is not, we regard this as an additional advantage, to which we are indebted for a more minute, and perhaps more careful description, both of symptoms and of morbid appearances, than we should otherwise have enjoyed. There is one point only on which we look in vain in the work before us for information, and we are unable to say whether it was not observed in the disease of the

Penitentiary, or was omitted to be noticed. We allude to the affection of the mesenteric glands, so repeatedly remarked, and so much dwelt on by the Parisian physicians. In every case of their fever, they found these glands enlarged and congested, and in some dissolved in a dark-coloured sanies, always according as the inflammation of the intestinal mucous membrane was slight and temporary, or severe and long continued. It cannot be doubted, that this morbid condition of these glands is the *effect*, not a part, of the intestinal inflammation, and is simply a secondary consequence of what is the primary disease. Yet no mention is made in the account now before us of the condition of the mesenteric glands, whether sound or otherwise.

It would be merely the affectation of unseasonable scepticism, after the evidence of these dissections which we have now surveyed, to entertain any doubt of the nature of the disease which prevailed in the General Penitentiary at Millbank. The researches of Dr Latham show most clearly, that it consisted, as we formerly stated, in inflammation of the mucous membrane of the intestines; and the evidence which we have adduced from other authorities, will, we trust, not only illustrate the nature of this disorder, but show that it is more common than has been hitherto thought. Dr Latham, however, does not express himself with great certainty as to the exact nature of the complaint, and he evidently entertains considerable doubt whether the appearances disclosed by dissection are calculated to throw complete light on its pathological character. He states his conviction, "that not only the spots of ecchymosis, but every morbid appearance which presented itself, had the character of certain partial and chronic eruptions upon the skin, when the whole surface is tolerably healthy, except the space which the eruption occupies; that, like such eruptions, they arise out of a morbid state of the constitution; and that they are curable only through the medium of the constitution." We do not know that it is worth while to examine the justice, or dispute the truth of these opinions; they are perhaps partly true, partly erroneous; but it is surely impossible, after the evidence, not only direct, but collateral, to resist the inference, that in whatever mode the disease was generated, whether through the medium of the constitution, or by the operation of local powers, it was, when in full action, nothing but inflammation of the intestinal mucous membrane. That it was not very acute, is manifest from the average duration of the cases (4, 5, 6, or 8 weeks); and therefore to regard it as a chronic eruption, in other words, a circumscribed punctuate or pustular inflammation, is probably not very remote from the truth. But whether the other points of this opinion be true or false, we have at present no means of deciding with certainty. The remarks on this subject would have been better placed in the ninth chapter.

From his speculations on the *generation* of this disease, the author proceeds (p. 58) to treat of the remedial measures, and of the train of experimental prescription by which Dr Roget and he were led to adopt the plan of cure to which they finally adhered. It appears that, in the beginning of April, the flux, which had affected between four and five hundred persons, had almost disappeared without other remedy than the chalk mixture and laudanum, aided by the influence of an improved diet. But when this symptom recurred at the end of April, it was no longer amenable to these simple agents. Attempts were then made to accommodate the therapeutic measures to the urgent symptoms. Where there was pain aggravated by pressure, and attended with fever, bleeding, blistering, or fomentations were used with the effect of abating the pain, but without removing the other symptoms, and especially the flux. Where there was mere colic pain, the soothing method by opium, fomentations, &c. was tried, but without permanent benefit. Under these discouraging circumstances, recourse was had to astringent bitters, aromatics, mucilaginous drinks, antimonials and ipecacuan.

"Ipecacuan was given in small doses of a grain or two grains, three or four times a day; or it was given once or twice only in large doses, of fifteen or twenty grains, combined with a couple of grains of opium. Moreover, the root was infused in water, and thus it was employed as a lavement. But, in all modes of its administration, and in every quantity, the result was equally unfavourable to the efficacy of the remedy." p. 60.

Glysters of starch and opium, of dilute goulard water and opium, warm-baths, swathing with flannel rollers, and stimulant liniments rubbed on the belly, are said to have been equally unavailing. An opiate cataplasm, however, consisting of pitch plaster, lead plaster, pounded opium, mint oil and camphor, appears to have produced more effectual and permanent relief.* Its effect was to procure sleep, or maintain a state of drowsiness, or of delirium, with continual talking and laughter during forty or fifty hours. While the system was under its influence, the frequency of the evacuations was greatly diminished; but when torpor or delirium went off, they became as numerous as before.

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* Empl. picis comp. ℥ijss. Empl. plumbi ℥ss. Opii duri contriti, olei menthæ, camphoræ ā ā ʒij. M.

It was at this moment of despair and emergency that Drs Roget and Latham, after a good deal of hesitation between the influence of academical principles or didactic authorities, and the absolute necessity of attempting the use of a method which had been successful in other hands, determined to have recourse to mercury. The reasons which had hitherto prevented them from prescribing it were, that they had learnt that it had been fairly tried at the first appearance of the flux without success; that the flux had at first been combined with scurvy in a large proportion of cases; that spots of ecchymosis had been found in the bowels of several who died; and that it was the general opinion of the profession, that mercury was injurious in cases of scurvy. These reasons are sophisticated by a fallacy, as we formerly showed, which is substantially admitted by Dr Latham, who in conclusion says, that "in fact the scurvy had almost entirely disappeared." The question at issue was, whether mercury would operate as a remedy for inflammation of the intestinal mucous membrane.

"While two hundred individuals were suffering a flux of the bowels at the same time, and many seemed gradually approaching to their dissolution; and while the numbers of the sick were every day increasing, and the forms of the disease were becoming more and more various and complex, and all the methods of treatment hitherto employed served to palliate only, and not to cure, Dr Roget and myself determined, after mature deliberation, to get rid of all restriction upon our practice, which had arisen from the consideration that the flux was originally combined with scurvy; and we agreed to employ mercury, in such forms and combinations as the exigencies of particular cases might seem to require.

"We first made trial of this remedy in those cases which our experience had brought us to regard with the greatest apprehension, cases (if I may so say) of mere passive diarrhœa, where there was no excitement of the circulation, where there was little pain, and little of morbid quality in the evacuations, but where the evacuations were enormously frequent, and hitherto absolutely incontrollable. In these cases all medical expedients had failed, and we were now compelled to content ourselves with such temporary relief, and such short intervals of ease, as opium, administered in draughts, or clysters, or in cataplasms, was able to procure. In our trial of mercury for these cases, we proceeded thus:—Equal quantities of hydrarger. c. cretâ and pulv. ipec. comp. were made into pills; each pill consisted of five grains, two grains and a half of each ingredient, and one of them was administered three times a day, to about twenty patients. Still there was no abatement of the diarrhœa. They were administered four times a day, and still the diarrhœa continued. They were given five times a day; when, upon our next visit to the Penitentiary, we found, among those who had taken mercury, one female in a profuse salivation, and the diarrhœa completely arrested in her, and in her alone. This poor creature had formerly had scorbutic spots upon the skin, at the same time that she suffered a flux of the bowls. The scorbutic spots had disappeared altogether; the flux had subsided, but returned; and that form of it, which has been described, had now brought her life into imminent hazard." p. 64–66.

The successful result which ensued in this case from mercury administered so as to cause salivation, suggested the same plan with others; and as its operation was with them, even in the most feeble and emaciated subjects, equally favourable, its administration at first became more general and finally universal. It was used in every case without exception. In the course of this experimental inquiry, though the permanent relief always followed salivation, yet it appears that the mode in which this was effected, gradually or at once, slowly or rapidly, was not a matter of perfect indifference.

"Experience taught us, that its curative effect depended, in some degree, upon the manner in which salivation was brought about. Hence a choice and a discretion were to be exercised upon the kind of preparation, the quantity and frequency of the dose, and its combination with other remedies.

"Where the flux was attended with severe tormina, or colic, or cramps at the stomach; or where the attack was sudden, and recent, and accompanied with fever, it was doing nothing to prescribe small doses of hydrarg. c. cretâ and Dover's powder, which would produce their effect some days hence. It was expedient that the impression of the remedy should be in proportion to the force of the disease, and the rate of its progress. Accordingly, large doses of calomel and opium were given, to make the mouth sore immediately, or as soon as it could be done with safety.

"In several cases, in which the agony from tormina and tenesmus was extreme, and the evacuations were enormously frequent, and consisted altogether of morbid secretions, or blood, fifteen grains of calomel and two grains of opium were given at a dose." pp. 68–69.

The patients to whom this dose was given were attentively watched, and especial care was taken that nothing should interfere with its operation on the constitution, or should render this unnecessarily painful. The effects were various,—but always salutary.

"On the next day, we sometimes found, that the patient had past an easier night, that the evacuations had been somewhat less frequent, and the tormina and tenesmus had been somewhat moderated, but that, since the morning, the symptoms had become worse again, the pains were as severe as ever, and the evacuations as frequent, and quite unaltered in their appearance. Under these circumstances, fifteen grains of calomel and two of opium were given a second time.

"Sometimes, the day after the first large dose of calomel and opium, we found the relief, which had been procured through the night still maintained, and the appearance of the evacuations changed in some obvious respect for the better. Perhaps they were now free from all admixture of blood, which they contained the day before. Under these circumstances, half the former dose of calomel and opium was given.

"Sometimes, the day after the first large dose of calomel and opium, we found the patient exulting that he had been cured as by a charm; that he had slept all night, and his pains were gone; and that he had had several evacuations, of which the two or three last were almost natural. With this sudden improvement, salivation had either already arisen, or it was at hand. Under these circumstances, the use of mercury was either suspended altogether, or small doses of calomel and opium were given until ptyalism appeared, which was generally obvious at our next visit." p. 71–72.

In some constitutions which did not readily yield to the influence of mercury under this form, and on whom the force of the disease was unabated, inunction was finally employed with the same favourable result.

The effect on the alvine discharges is remarkable, and is described in a style which shows that it must have been diligently observed by the authors.

"After a calm, procured by one or two large doses of calomel and opium, or after the employment of inunction for two or three days, the constitution would become suddenly roused, and a very severe griping would arise, and then a sensation would follow, as if the bowels were filling and distending themselves with something, and, afterwards, an incontrollable urgency to stool. With the evacuation came the relief of all the preceding misery. The stools were entirely changed. A few hours before, they consisted, perhaps, of slime or blood, or some colourless turbid fluid. Now they were a colluvies of the foulest, blackest matter, and of every kind; heavy ropy mucus and bile formed a considerable part of them. After one or two such evacuations the patient felt himself entirely restored and well. It generally happened, however, that the same sort of paroxysm returned, and was terminated by the same kind of relief. Thus, after a whole night spent in a succession of these critical paroxysms, the patients were found, the next day, bathed in a warm perspiration, and fast asleep; and, from this time, the evacuations from the bowels became natural and healthy." pp. 74, 75.

Such is the history of the employment of mercury in the epidemic of the Penitentiary; and such was its effect on the disorder of the bowels which we have above described. We formerly entered into the inquiry how far it was consistent with correct pathology and good practice to adopt such a method of treatment; and if we did not then adduce arguments both rational and practical sufficient to produce conviction, we cannot now hope to be more successful. The evidence of the efficacy of mercury as a remedy, advanced by Dr Latham, is of the same strength and of the same kind as that adduced long ago by Dr Lind and Mr Paisley of Madras,[*] Dr Clark of Newcastle,[†] Dr Houlston of Liverpool,[‡] Mr Milne of the East India service,[§] and Dr Chisholm of Grenada; and more recently by Ferguson,[¶] Gray, Johnson,[**] and even Bampfield.[††] The practice of these physicians is a manifest proof that many cures of dysentry or enteric inflammation recover *under* the use of mercury administered so as to affect the constitution; but it may justly become matter of inquiry, whether such cases would not have recovered under the proper use of general and local antiphilogistic means, especially aided by light and unstimulating form of diet. It is to be remarked, that in almost all these instances the mineral, whether given in the form of calomel, of blue pill, or of friction, was given not alone, but was combined with several doses of opium. Thus, even in the very instance of the Penitentiary disease, not only was each dose of calomel accompanied with two grains of opium, but this drug, either in substance or in tincture, appears to have been exhibited at intervals afterwards. We cannot be so bigotted or absurd as to imagine that the cure was effected by opium only; but when we know the remarkable influence of this substance on intestinal disorders,—when we bear in mind the cures which it effected in the liberal doses prescribed by Dr Irving, Mr Playfair, Mr English, and numerous other practitioners,—when, above all, we know what it can do when judiciously combined with remedies of a purgative property, we are inclined to deliberate somewhat, ere we admit, that the favourable issue was to be ascribed to the calomel only, whether given to affect the mouth or not.

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[*] See London Medical Journal, Vol. VII. An Essay on the Efficacy of Mercury in the Cure of Inflammatory Diseases and the Dysentery. p. 153.

[†] Observations on the Diseases which prevail in long Voyages to Hot Countries, &c. by John Clarke, M. D. Vol. II. London 1792. Vol. II. p. 310, sect. iv.

[‡] Observations on Poisons and on the Use of Mercury in the Cure of Obstinate Dysenteries, by Thomas Houlston, M. D. Edinburgh 1787. p.

[§] Account of the Diseases in two Voyages to the East Indies. London 1803.

[¶] On the Mercurial Plan of Treatment in Dysentery, &c., by William Ferguson, Esq. Inspector General of Hospitals to the Army in Portugal. Medico-Chirurgical Transactions, vol. II. p. 181.

[**] The Influence of Tropical Climates, more especially the Climate of India on European Constitutions, &c. By James Johnson. London, 1813, 1st edit. p. 380, &c.

[††] A Practical Treatise on Tropical Dysentery, &c. By R. W. Bampfield Esq. Surgeon. London, 1819, p. 134, &c.

It is also to be remembered, that cases of intestinal inflammation and dysentery recover in many instances without the exhibition of a particle of mercury, as is evinced in the practice and writings of Pringle, Monro, Zimmerman, Wilson, Moseley and Hunter; in those of Willan, Irvine, Ballingall and Bampfield; and in some instances in the treatment of dysenteric cases during the Egyptian campaign of 1801,[*] and in the Peninsular campaigns of 1812, 1813, 1814, as related by Sir James M'Grigor;[†] and in the entero-mesenteric disorder of the Hotel Dieu of 1811, 1812 and 1813, already so often mentioned. During the latter end of the Peninsular war, indeed, when the experience of the army practitioners may be supposed to be most improved, they appear to have trusted chiefly to copious and repeated depletion for removing dysentery; and though calomel was used by several, it may be safely doubted whether it was really useful. Thus Dr Somers, whose practice is commended by Sir James M'Grigor as judicious and successful, while he ordered venesection repeatedly, and followed up its effects by twelve grains of Dover's powder every hour till sweating took place; prescribed *three* grains of calomel only, with *one* grain of opium every second night, and two drachms of Epsom salts in the intermediate day. There is reason to believe that calomel, given in this manner, could not be very effectual amidst so many powerful remedies. It must be doubted, further, whether its general use would be prudent, or entirely safe; for Sir James M'Grigor himself states, that "in the early stage of the acute and unmixed disease, and before repeated venesection has been performed, it will aggravate the symptoms; in the more advanced stage of the disease, particularly where there is either hectic fever with extensive erosion, or ulceration of the intestine, it was invariably found to hurry it on to a fatal termination."

The considerations arising from these facts and arguments would lead us to doubt, whether the beneficial effects of the calomel in the Penitentiary disease depended purely on its power as a mercurial; and afford some countenance to the opinion, that a cure might have been effected by other means. Our limits, however, do not permit us to continue the inquiry further.

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[*] Observations on Diarrhœa and Dysentery, as those diseases appeared in the British Army during the Campaign in Egypt in 1801. By Henry Dewar, late Assistant-Surgeon to the 30th Foot. London, 1803.

[†] Sketch of the Medical History of the British Armies in the Peninsula of Spain and Portugal during the late Campaign, &c. By Sir James M'Grigor, M. D. &c. Medico-Chirurgical Transactions, Vol. VI. p. 381.

The history of the disorders of the brain and nervous system, which is next delivered in the Fourth Chapter, forms a curious feature in the health-report of the inhabitants of the Penitentiary. The physicians had remarked, in their report of 5th April 1823, that in all who had suffered with a scurvy or dysentery, " there was constitutional derangement, denoted by sallow countenance, impaired digestion, diminished muscular strength, feeble circulation, *various degrees of nervous affection, as tremors, cramps or spasms, and various degrees of mental despondency.*" In process of time, these disorders became more frequent, more varied and more formidable; and they had occasion to observe headach, giddiness, cramps and twitching of the limbs, delirium, convulsions, and even apoplexy. These symptoms appear not always to have been connected with flux; and though they were found in combination, they were also observed to exist separately—a circumstance from which Dr Latham infers, that both orders of complaints arose from a morbid condition essentially the same, but falling on different parts. To establish this point, our author states his facts in the same order in which they fell under observation.

At the first visit of seventy men who were in hospital, five had no other complaint but severe headach, three complained only of cramp in the limbs, and one had cramp in combination with diarrhœa. Of ninety-three women in hospital at the same time, thirteen had simple headach, three had no other complaint but cramp, and five had headach combined with diarrhœa. Ere the first week was well over, Robert Dyer, aged 31, suffering cramp and diarrhœa in the infirmary, died suddenly apoplectic. The vessels of the brain were turgid with blood, and there were a few spots of ecchymosis on the bowels, though there had been no scurvy spots on the skin. About ten days afterwards, Harriet Church, aged 26, whom the physicians found in hospital with headach, began to exhibit a strange perverseness, which was quickly aggravated to mania, when she died. Very slight congestion of the blood-vessels of the brain was the only morbid appearance detected.

" Soon afterwards, as we were one day going round the infirmaries, our attention was called to a young woman (Louisa Cornforth) who was suffering the most agonizing spasms. Her legs and arms were as rigidly tense as in tetanus. Suddenly she gave a loud shriek, and her eyes were fixed, and she became as pale as death. No pulse could be felt, and her breathing was only just perceptible. By æther and ammonia, and all the means of stimulating within our reach, we succeeded in rescuing her. In two or three minutes perhaps we could feel the pulse beginning to undulate, and see the countenance beginning to redden, so that it was evident that the blood was in motion again. Then her eyes began to pass from object to object, and it was plain her consciousness had returned. She could not yet speak ; but, by inarticulate sounds, and by the motion of her hands around the heart and stomach, she made us understand, that it was there the sudden agony had seized upon her. This young woman survived six weeks ; and, in the mean time, all her dreadful symptoms frequently recurred, and her existence was upheld, from hour to hour, by the most potent stimulants. If she was left more than a certain period, without a small quantity of brandy, her pulse became imperceptible ; but it was felt again, as soon as the stimulus was again applied. And, in this manner, even for as long a time as six weeks, existence was still maintained, while it was continually tottering upon the verge of dissolution. Before her death, diarrhœa was added to her other complaints. Upon dissection, nothing was found at the origin of the nerves, to account for the dreadful symptoms referable to them. At intervals, throughout the intestines, there were small circumscribed patches of red, occasioned by blood accumulated in the small blood-vessels; but there was no ecchymosis." pp. 81–83.

Many women were affected nearly in the same manner as this patient, with cramps in the limbs and trunk, and a few with that mortal agony at the heart and pit of the stomach, which seemed to threaten instant death; but one only, Sarah Farley, eventually died. Upon dissection, small vascular patches were found in the mucous membrane of the bowels, and nothing more. To explain the phenomena of these cases, Dr Latham infers, that it must be believed " that an impression was communicated through the nerves, expressly to the heart, so as to cause a failure or suspension of circulation,"

The case of Charles Thomson, which gave rise to so much discussion, and some degree of obloquy, is next narrated. This man, aged 29, was one of the few who had large blotches on the legs, which, however, had disappeared entirely in March. His looseness continued, with various interruptions, till the month of June, when he was still confined to bed, feeble and emaciated. On the 24th of this month, while Dr Latham was feeling his pulse, in the beats of which there were unusual intervals, and was in the act of passing his wrist to the finger of Dr Roget for the same purpose, his head fell back, and he was apparently dead. By using means of resuscitation, however, the circulation was slowly re-established, but not sense and consciousness, and actual death took place, after several convulsions, the following day. Little vascular patches were found in various parts of the bowels, mixed with small circumscribed ulcers; increased vascularity of the brain, and fluid between its membranes, and in the ventricles were observed. The heart was sound.

Among other cases, there were several in which sudden acute pain of the head was accompanied, first with giddiness and bewilderment of the intellect, then twitching of the tendons, and successively squinting, dilated pupils, and, lastly, distortion of the mouth, and hemiplegia. Although these symptoms were believed to indicate a phrenitic attack, yet the extreme feebleness of the pulse was an obstacle to the use of energetic antiphlogistic measures; and in the few cases in which general bleeding was cautiously tried, it gave no encouragement to the continuance of the practice: nor was local bleeding, by means of leeches, of more certain efficacy. In this difficulty, it was to blisterings on the head and its neighbourhood, that the curative management was chiefly confined; and it was fortunate, that, if employed in time, they were adequate to the removal of the alarming symptoms. From these facts, if any conclusion can be drawn, it may be inferred, that the distempered state consisted in a slow and chronic inflammation or congestion of the brain and its membranes. From this insidious disorder they lost two females, both of whom Dr Latham is persuaded would, in all human probability, have been saved, if they had been submitted to the mercurial treatment. The brain was universally vascular, and fluid was effused between the membranes, and into the ventricles,—a decisive proof of the correctness of the pathological opinion entertained of the nature of the malady.

We have already alluded to the opinion entertained by the physicians, of the alliance between the bowel complaints and these disorders of the nervous system;—Dr Latham now enters on the investigation of this subject, and adduces various arguments to demonstrate the proposition, that both were the result of the same morbid agent, and that the differences which they betrayed, arose merely from the different properties and functions of the organs in which its violence descended. His most satisfactory proofs are those which demonstrate a combination or a vicarious or alternating existence of cerebral and of intestinal disorder. Thus, patients were attacked with headach or giddiness, while the bowels were natural, and, according as the symptoms were mild or severe, they were merely watched in the infirmary, or they were treated by local bleeding, blistering, or such *common* remedies as are used for symptoms of this nature. "But every patient almost to a man, some the next day, the greater number in two or three days, and some at a more distant period, were overtaken by some species of flux. The flux followed whether the head was relieved or not, and when the flux was established, the headach or vertigo continued or ceased indifferently." In the case of the sudden seizures also, which were not rare, all the subjects were either suffering a bowel complaint at the time, or were inevitably overtaken by it in a day or two.

These facts supply an interesting commentary on the table of the relative number of deaths according to the kind of symptoms, which we formerly published ; * and the result is a clear proof that truth will ultimately prevail, if it be sought with a willing and unbiassed mind. It is a singular fact that the mere perusal of the reports of the deaths, vaguely and imperfectly given as they were in the Coroner's returns, convinced us,—first, that scurvy was *not* the principal disease in the Penitentiary,—secondly, that an intestinal disorder was very general and very fatal,—and thirdly, that there were various other complaints, somewhat anomalous, but nevertheless sufficiently distinct not to be confounded with either, that were by no means uncommon, and were the source of considerable havoc among the prisoners. It could not be expected that from materials so scanty, and collected with so little accuracy, we should extract a very correct view of the relative mortality resulting from different diseases; and in the absence of more precise documents, we arranged the several lists of deaths in columns according to the prominent symptoms during life. Now, the curious feature of this tabular view is, that the very cases which Dr Latham has particularly adduced as examples of disorder of the nervous system, were then placed by us under the head of deaths, in which the prominent symptoms were in the head, and deaths, in which the prominent symptoms were cramp or spasms of the stomach. The very first case of Dr Latham, that of Dyer, is the first in the list of spasmodic cases ; the second of Dr Latham is the second of our list of head cases; the third of Dr Latham is the third of our list of spasmodic cases ; and the fatal case of S. Farley is the last in the same list. We have looked through our author's work for the other individuals of these lists, and find the case of Mary Venables, which stands in our list of cerebral cases, recorded in the chapter on the " Fever." We have still the cases of two men and two women in these lists unaccounted for ; but as it is manifest that it was not our author's intention to specify every individual case, we do not conceive that their omission will form a very strong exception to the general coincidence which we have here remarked.

We could have wished that our lists of affections of the chest, (heart and lungs), consisting of six cases, and the two instances of affection of the heart, had been also explained. But of this we find no trace in the pages before us. It is not improbable that some of them were examples of that mortal agony at the heart, which has been so clearly described by our author.

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* Med. and Surg. Journal, Vol. XXIII. p. 120.

The treatment for these disorders of the brain and nervous system, finally adopted by the physicians, was the same as in the bowel complaints, by calomel with opium, so as to produce salivation.

"In our administration of mercury for the relief of these complaints, we observed that, in the great majority of cases, no striking abatement of symptoms took place, until salivation was procured. Whether the very salivation itself was essential to the cure, cannot be determined; but being the only sensible effect of the remedy, with which the cure could be connected, it served us for guidance in the administration of it. Hence it always was our purpose to obtain salivation.

"But we did not observe, upon the whole, that the abatement of symptoms was connected with any *certain degree* of salivation. Therefore, we were, in every case, content with any, the least degree of salivation, under which they would disappear." p. 113.

The account of fever, which is given in the fifth chapter, shall detain us very shortly. The bowel complaints, it was already shown, were rarely attended with much of that commotion in the organs of circulation to which the name of fever has been applied, nor were the disorders of the nervous system, according to the observation of Dr Latham, distinguished at least, when they first appeared, with quick pulse or general heat.

"It was not until these complaints began to subside, that the fever showed itself, in a sufficient number of cases at once, to make us accurately acquainted with its type. At no time did it pervade the prison to an equal extent with the other two forms of disease. But its extent, nevertheless, was such, that it had a just claim to be considered as a part of *the disease* of the Penitentiary; and the manner in which it was mixed up with the disorders of the bowels, and the brain and nervous system, led to the belief that they had all a natural relation to each other, and that they all sprang from one and the same morbid condition of the constitution at large, and were all, in some sort, the same disease." pp. 118, 119.

Dr Latham proceeds to describe this fever, which is very much like all other fevers, with some minuteness, and relates two very interesting cases, with the appearances on dissection, in order to illustrate its nature, and show its effects. Judging from the evidence afforded by both orders of phenomena, we doubt whether there is ground to distinguish these cases as fever essentially from the other two forms of disease already admitted to have a separate existence. Thus, in the first case, vomiting of bilious matter, and profuse purging of matter like tar, were followed by paleness of the countenance, fainting, and every mark of deadly exhaustion for four days, when stertorous breathing and slight distortion of the mouth, terminated in death. Large black vascular patches were found on the great end of the stomach and over the whole of the duodenum, and the peritoneal coat of the intestines was likewise puckered and stained of a black colour. As two ounces of fluid blood were found in the peritoneal cavity without lymph or other fluid, there was no doubt that hemorrhage had taken place from that serous membrane,—a more common occurrence than is generally believed. The mucous membrane of the stomach, duodenum, and ileum, was covered with black patches of echymosis wherever the peritoneal coat was tinged, and the tract of the bowels was filled with the tar-looking matter. There was only one small ulcer. The vessels of the brain and its membranes were loaded with blood, but no effusion had taken place. In the other case the usual symptoms of fever were followed by headach, delirium, feeble pulse, and stertorous breathing, which ended in apoplectic death; and the ordinary traces of vascular congestion were found in the brain. Now, it does not appear to us that in either of these cases the commotion of the circulation, and the more conspicuous signs of irregular temperature of the surface, furnished reasons sufficient to distinguish the one from the tribe of intestinal disorders, and the other from that of cerebral affections. On the most scrupulous and deliberate examination of the history of both cases, we cannot recognise any other difference than that which arises from a variation in the degree of severity which the disease assumes. We submit this opinion, however, with that deference to our author, to which his intimate knowledge and patient observation of this malady give him so just a title.

The Sixth chapter, in which Dr Latham treats of intercurrent diseases, is very curious; and while it affords matter for serious reflection to the pathologist, it cannot fail to convince every one, that a peculiar character was impressed on every disease, whatever it might be, within the walls of the Penitentiary. The term "intercurrent diseases" is well known to the reader of Sydenham. In the present instance, cases of rose were frequent and numerous, and though slight, and terminating favourably, they were tedious and lingering in cure. An affection not unfrequent among the females was inflammation of the *labia pudendi*, accompanied by a smart febrile attack, and uniformly terminating in the formation of abscess, without further inconvenience. Accidental sores and bruises were healed with difficulty; and in one young woman, whose hand had been injured by pearl ash, the integuments of the fore-arm sloughed by spreading of the sore. More serious mischief appears to have followed the application of leeches in other two cases, in which the leech-bites became first the seat of livid dark blotches, and afterwards of a bad and unmanageable suppuration, terminating fatally. (pp. 142, 143, 144). The chapter concludes with an account of the case of one of the nurses of the Institution, a large, corpulent, bloated woman, addicted to the habitual use of spirits, in whom a bruise on the great toe gave rise apparently to inflammation of the inguinal glands, and suppuration of bad character, with sloughing and dreadful fetor, great constitutional disorder, with black patches on the skin, bloody purging, and very weak pulse, terminating in death on the twentieth day. The gastroenteric mucous membrane was brown generally, and much studded with black vascular patches, and in some instances ecchymosis; and all the serous membranes were similarly affected.

The Seventh chapter, which is principally occupied with the Report of 4th July 1823, already published in the Minutes of Evidence, we omit.

The Eighth chapter, which treats of the removal of the prisoners from the Penitentiary, and its influence, contains much curious and interesting matter. When the penitents became convalescent, the physicians thought the most certain method of preventing relapses and establishing their health, would be found in change of air and change of place; and by the active exertions of Mr Holford, aided by the interference of Mr Secretary Peel, this recommendation was, with as little delay as possible, carried into effect; and all the prisoners, both male and female, were eventually removed from Millbank to situations believed favourable to the recovery of their health. As a measure so extensive could not be effected all at once, those who had suffered most severely, either from the violence of the disease or the frequency of its attacks, were the first selected for removal; and 120 female convicts were conveyed to the Ophthalmic Hospital in the Regent's Park, then vacant, between the end of July and the beginning of August; and 200 male convicts were removed to the Ethalion Hulk at Woolwich, between the middle and end of August. The care of the prisoners in the former situation and of those left at Millbank was now divided between the physicians, to whom, by their own request and the appointment of the College, Drs Hue, Macmichael and Southey, were associated; while all of them paid frequent visits to those on board the Hulks, where they were under the immediate care of Mr Bayles. In a fortnight after removal, complaint was much diminished, and their general aspect bore the appearance of returning health. Of those however who remained at Millbank, amounting to about 100 women and 300 men, the general health was stationary, while they were still harassed by visitations of their former complaint—in the shape of diarrhœa, not very severe,—but still sufficiently so to prevent its character from being mistaken, and if allowed to go beyond certain limits,—uncontrollable by any medicine save mercury. A few weeks experience in this mode of procedure showed the balance of health to be so much in favour of change of situation, that it was resolved, after a formal consultation of the physicians, to transfer all the prisoners left at Millbank to Hulks fitted for their reception at Woolwich; and accordingly the women, whose number was now reduced by pardons to eighty, were removed on the 14th November to the Narcissus, and the men, diminished to two hundred and eighty-one, were, between the 8th and 10th of December, conveyed to the Dromedary.

Another peculiarity is here remarked in the history of the female patients. Those who were removed to the Regent's Park, and those who were conveyed to Woolwich, equally appeared to regain health and strength; yet both continued equally to suffer returns of their disease, chiefly in the form of diarrhœa. But this difference was remarked, that while the patients at Woolwich continued, notwithstanding these attacks, to recover their health, those at the Regent's Park did not improve after the first few weeks from their removal. Not a single case of serious disease had taken place at Woolwich for four or five months, whereas, during the same period, several had appeared at the Ophthalmic Hospital, chiefly in the form of the insidious cerebral inflammation. These circumstances naturally indicated the propriety of removing those patients to Woolwich; and accordingly, on the 21st and 23d January 1824, when their number was 91, they were conveyed to the Heroine.

These removals, though effected at different seasons of the year, were invariably attended with great diminution of complaint; but this amendment was either apparent only or temporary, for after a short pause diarrhœa continued to recur, of the same character, though in a milder form, than that which raged at Millbank. Even the absence of this complaint, for a considerable period, furnished no security for its return; for the men of the Ethalion who had been first removed, continued, after intervals of health for three, four, or even five months, to suffer attacks. On some occasions the suddenness of these invasions was so great, that though at one visit not more than five and twenty would be on the list for bowel complaints, at the next, half the number was labouring under diarrhœa. As none of these cases terminated fatally, Dr Latham does not attempt to say positively what was the state of the intestinal tube in such subjects; but he endeavours, from various collateral sources of evidence, especially dissections of similar cases, performed either at Millbank in subjects cut off by the cerebral disorder, or in the London Hospitals in persons dying under similar circumstances, to show,—that the only pathological cause which operated in producing these effects, consisted in a few minute ulcers somewhere in the intestinal tract, tardily undergoing the process of repair. Circumscribed in extent, and free from inflammation, he believes them capable of existing without constant injury to the general health, or impediment to the functions of the parts in which they were situate, yet liable, under the influence of occasional causes, to produce temporary disorder.

This opinion receives strong confirmation from the phenomena of a disorder which appeared among the women of the Narcissus, who, in March 1824, after being for months in good health, were suddenly attacked with a sense of sinking, extreme pain of the whole epigastric region, great impatience of pressure, distension of the belly, and violent retching, with the rejection, in several cases, of pure fluid blood. The pulse was feeble, and neither food nor medicine remained on the stomach. After other remedies were tried in vain, calomel and opium, to the amount of five grains of the former and one grain of the latter, were administered to several, but with aggravation of all the symptoms. In this instance, however, not the remedy, but the mode of administration was the source of evil;—when one grain or two grains of calomel, with one-fourth or half a grain of opium, were given every second or third hour, they were retained, with the effect of abating sickness, retching, and acute pain. But all the symptoms did not finally disappear till the gums became perceptibly sore. From the symptoms, the method of treatment which procured relief, and from the experience of what morbid anatomy has disclosed under circumstances nearly the same, Dr Latham regards it as not far wrong to conclude, that the seat of the disease was in the blood-vessels of the stomach, or of the upper part of the intestinal canal, and that their sudden and undue repletion was the condition which constituted the disease itself.

In the course of ten days, this disease had attacked half the women on board the Narcissus; and even when it was subdued, though none died, the traces which it left of emaciation, weakness, distress, and misery, were truly painful to behold. Nor had the convicts of the Heroine been much more fortunate; for although it does not appear that they suffered from this acute form of disorder, their general health did not amend remarkably after removal, and many severe cases of bowel complaint had occurred since their arrival at Woolwich. In short, corporeal sufferings appear to have been here aggravated by the deepest despondency and incessant causes of mental distress, that each was not obtaining her liberty, which was at this time bestowed upon many who received pardons on the recommendation of the Committee. Every instance of pardon almost was followed by the agony resulting from hope deferred among the residue, and by some attack of actual disease.

As every measure compatible with the condition of prisoners, had been employed for the comfort and health of these unfortunate sufferers, it began to be matter of consideration whether that condition could be safely continued, with any hope of restoring them to perfect health, and whether the pardon which had been beneficially granted to many, should not be extended to all. As the disease had in truth rendered their punishment greatly more severe than could have been contemplated, and, if such objects could admit of anything like comparative estimation, several months of bodily suffering and bad health were equivalent to many years imprisonment, the proposal of a general release was not only natural, but just; and Mr Peel, with that prompt attention to the calls of humanity of which he never loses sight, in his management of the domestic concerns of the empire, admitted this as a forcible plea in his recommendation of the whole to the mercy of the Crown. The female convicts were therefore pardoned, and released successively, as it was ascertained that the friends of each were willing to receive them; and when the last left the Penitentiary Hulks on the 18th June 1824, the Committee had the gratification to find that every one had some place of protection. As various police considerations prevented the same course from being immediately followed with the men, they were distributed among the various hulks, where they have been subjected to active occupations, and continue in the enjoyment of tolerably good health.

The subject of the Ninth and last Chapter, on the origin of the disease, is the most perplexing, and still, we must say, the information which it communicates is not satisfactory. It is manifestly too long, too detailed, and too complicated for us to attempt an abstract; and, in short, to give an abstract that would either do justice to the reasonings of the author, or communicate information to the reader, it would be requisite to print it entire. This, it is obvious, we cannot do, and we therefore trust our readers will peruse it themselves. There are two leading points we may mention, which it chiefly professes to investigate; first, the question of contagion, as a cause at least of the propagation of the disease;—and secondly, the question of a local nervous influence. In the first Dr Latham adduces several curious facts which were remarked in the mode in which the disease appeared to be communicated; but we do not think they amount to a satisfactory proof,—and it is obvious that the ingenious author himself is of the same opinion. In treating of the second subject great stress is laid on the matter of a Report of the 11th October 1823, in which the physicians show, from an extensive collation of the apothecary's day-book and other papers, that looseness was a general complaint in the Institution from the year 1816 to 1822, when its severity first attracted attention. From these documents three tables are compiled, to show the cases of diarrhœa occurring annually among the whole convicts, and how difficult it was of cure, and how prone to return. The two first tables are sufficient to communicate a notion of the kind of argument employed.

1. Table exhibiting the number of prisoners each year in the Institution, with the number of cases of diarrhœa:—

—	* 1816.	1817.	1818.	1819.	1820.	1821.	1822.
Prisoners -	72	212	246	351	609	798	866
Cases of diarrhœa	23	104	106	82	85	87	88

2. Table exhibiting the gross number of cases treated as diarrhœa in every year, and also the number of cases continued from preceding years to the succeeding, the latter being included in the gross amount. It furnishes also the number of new cases in every year, by subtracting from the gross amount of each year the cases continued from preceding years:—

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* The numbers in this year refer to a period of six months only.

—	1817.	1818.	1819.	1820.	1821.	1822.
Gross number of cases of diarrhœa in each year	104	106	82	85	87	88
Number continued from preceding year -	11	32	31	23	20	17
Number of new cases in each year - -	93	74	51	62	67	71

From these tables the physicians inferred in their Report, "that a disorder of the bowels of a peculiar nature, at all times difficult of cure, and of the same general character with that which has constituted the late epidemic, has prevailed in the Penitentiary ever since its establishment; but that, until the commencement of the present year, it became gradually more and more limited in its extent, and, though always difficult of cure, it has not upon the whole been attended with much hazard to life, until the breaking out of the late epidemic." If the hypothetical cause, whatever it may subsequently prove to be, to which the physicians here allude, actually was concerned in the production of the disease, it is manifest that it ought to be adequate to all the alleged effects, and that it should be the origin not only of the bowel complaints, but of those affections of the brain and nervous system which Dr Latham contends are integral parts of the same disorder. This difficulty has not escaped the research of our author, who states that the physicians could have shown, from the day-books connected with the oral explanations of the apothecary, that this affection of the brain and nervous system had prevailed in this Institution almost to the same extent and during the same period with the intestinal disorder (p. 226); and though the apothecary drew up for his books, merely by knowledge of his own method of prescribing, a list of the number afflicted with these nervous affections, from the establishment of the Penitentiary to the time of evacuation, yet it was deemed expedient not to offer to the committee any matter which was not self evident, or required explanation.

It was perhaps as well that this last argument was not urged; for it is unquestionably of a very doubtful nature: and if every case on which prescriptions for headach or giddiness among persons confined within doors mostly to sedentary occupations, were to be admitted as evidence of a continued train of serious endemic disorder, we fear that the rules of medical evidence, vague and defective as they are, would become utterly untangible, and would deservedly lose the confidence of every correct mind. There is in truth considerable difficulty in the idea of a local noxious influence giving rise to the disease of the Penitentiary, viewed in the proteiform light in which it has been represented by Dr Latham; and although it appeared from prescriptions in the day-books, that headach, vertigo, and other disorders referred to the brain were very prevalent, it would still be extremely difficult to show how complaints of this description arose from local situation.

If, however, we relinquish this view of the disease, and regard it as a simple intestinal disorder, such as we had first believed it to be (*Enteric* inflammation of the intestinal mucous membrane), the notion of the operation of local causes is neither so absurd nor so incomprehensible as in the other view it appears. When on the contrary, we trace the ancient medical history of London, intestinal disease under the name of Flux, Bloody Flux, and Gripes, which indubitably are synonymous with Diarrhœa and Dysentry, appears to form so large a proportion of deaths in the bills of mortality, that it is not unreasonable to regard them as depending on local causes, or in other words, as indigenous in the city and neighbourhood. We learn from the observations of Dr Heberden on the increase and decrease of different diseases, that dysentery was, next to plague, one of the most common and fatal diseases prevalent in London. During the seventeenth century the annual number of deaths under the title of Bloody Flux, and Griping of the Guts, appears never to have been less than one thousand; and in some years to have exceeded four thousand. Previous to 1666, dysentery was very fatal in London; and it results from the bills of mortality, that from 1667 to 1692 a space of twenty-five years, it destroyed annually two thousand persons. During the last eight years of the seventeenth century, however, the prevalence and fatality of this disease underwent a sensible diminution, which after the beginning of the eighteenth century went on increasing. During the first ten years, the annual amount of deaths by dysentery, did not exceed 1070 persons, though the population of the city was greatly augmented, and in each decennial space they diminished rapidly, till at the close of the century they did not amount to above twenty deaths annually.[*] Even during the years 1762 and 1780, when Sir George Baker, Sir John Pringle, and Dr John Hunter, represent dysentery as epidemic in London, the number of deaths by flux, colic, and gripes, was in the former two hundred and nine, and in the latter merely three only; and when it was again epidemic in 1800, Dr Willan informs us that he never saw a fatal case.[†] The observations of Dr Bateman on Dysentry in London, during autumn 1808, lead to the same conclusion.

From these facts it may be considered as established, that this disease was originally very common, and often epidemic in London with great fatality; that it is now not only greatly less frequent, but much milder in its symptoms, and that this diminished frequency and fatality is to be ascribed to the slow but certain operation of those agents which contribute to the salubrity of a large and populous city, and especially to the means by which they counteract the influence of the natural and physical causes of disease. We cannot here consider the mode in which these causes operate, nor the means by which their operation is defeated; but we do not regard it as a forced conclusion to say, that if by any means their action is suffered to be continuous, they will give birth to the same or similar effects to those which originally spring from them.

If these arguments are applicable to London, they are not less so to Westminster, and especially to Millbank; and they show that there is nothing improbable in the Report of the physicians representing diarrhœa to have been so long prevalent in the Penitentiary, where the circumstances of the imprisoned inhabitants were insufficient to counteract the operation of those causes which anciently rendered dysentery an indigenous endemic of the British metropolis. In expressing this opinion we do not pretend to say with certainty, whether the site of the building, which was once low and wet, or the air of the place, or the domestic management and situation of the inhabitants, had exercised any insalubrious influence. It is sufficient that we show, first, that inflammation of the intestinal mucous membrane was a disease so common in London as to be regarded as indigenous; and secondly, that under certain circumstances it may become so again. Without enlarging our commentary on this subject, we leave our readers to draw their own conclusions; and one of these will be, that there is nothing either so absurd or frivolous, as Mr Holford wishes to show, in the idea of malignant local influence. The reasoning of Mr Holford, so far as it relates to this point, is not conclusive; and though Dr Latham completely succeeds in refuting it, he behaves throughout with a degree of lenity and indulgence which is highly commendable. Whether other causes, connected with the condition of captives, may not have some influence, it is difficult to say. James Neild, the indefatigable follower of the footsteps of Howard, informs us, that when he visited the Hulks in Langston harbour in 1802, he found the convicts of *La Fortunée* very unhealthy, and considerable mortality from a complaint "which begins with a low fever, and ends in a diarrhœa or dysentery." * A similar disease appears in the evidence of Mr Morton Pitt, to have prevailed in Dorchester county jail; and we have already spoken at sufficient length of the entero-mesenteric fever of the Hotel-Dieu. We have not leisure at present to pursue the analogy which might thus be traced among places notorious for intestinal disorders; and must therefore leave the subject to those who have.

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[*] See Dr Heberden's Table, p. 34.

[†] Reports on the Diseases of London in Miscellaneous Works, p. 380.

[‡] Reports on the Diseases of London, &c. by Thomas Bateman, p. 111.

Lastly, a conjectural remark on the probable origin of this disease, which its delineation by Dr Latham irresistibly suggests, may be mentioned before concluding, that if it should reach any of the medical gentlemen who have observed its several phenomena, they may have some opportunity of knowing how far it is well founded. When we take the whole train of disorders together, and, on the hypothesis of Dr Latham, ascribe them to the operation of a *single* morbid agent, we cannot refrain from inferring that they bear a much closer resemblance to the dreadful effects of the spurred rye, than to any other malady in the whole list of the nosology. The scorbutic appearance of the skin, the dysenteric symptoms, bloody alvine discharges, and appearances in the bowels after death,—the vertiginous headachs, convulsions, and apoplectic deaths,—nay, the gangrenous character of the intercurrent diseases, all bear a close resemblance to the symptoms and deaths of the unfortunate fowls who fell victims to the feeding of M. Tessier, and the not less unfortunate human beings who suffered from spurred rye.

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* State of the Prisons in England, Scotland, and Wales, &c. By James Neild Esq. 1802. p. 625.

II.

Elements of the Anatomy of the Human Body in its Sound State; with occasional Remarks on Physiology, Pathology, and Surgery. By ALEXANDER MONRO, M. D., F. R. S. E., Fellow of the Royal College of Physicians, and Professor of Medicine, Anatomy and Surgery, in the University of Edinburgh. In Two Volumes. Illustrated by Engravings. Edinburgh, Maclachlan & Stewart. 1825.

IT is a remarkable circumstance in the history of the medical sciences in Britain, that professed systems of anatomy by English authors are not numerous. We have one or two good monographical treatises on particular parts or orders of parts in the human body, in the writings of Monro the first, William Hunter, Innes, Colles, Allan Burns, Sir Astley Cooper, Barclay, &c.; we have London Dissectors, Manuals of Anatomy, *Vade-Mecums,* and so forth; but complete treatises on the structure and organs of the human body are scarce indeed. Thus, during the last thirty years France has seen Portal, Sabatier, Boyer, Bichat, Cloquet, Beclard, and others of less note, all zealously and eagerly competing with each other, to instruct her students in the best and most perfect manner in the fundamental principles of the knowledge of the human body; while in this country it is impossible to number any other works professedly systematic than the matter-of-fact volumes of Fife, the work of John and Charles Bell, and the Outlines of Dr Monro, published many years ago. This paucity of elementary treatises on an important subject cannot be ascribed to incapacity for the task; for the writings of Burns, Colles, and Cooper, are unequivocal proofs both of the research and diligence of our anatomists, and of their talent of communicating information. There is in truth a manifest aversion to treatise-writing. Each selects some particular part of the human body for inquiry, examines it carefully and repeatedly, studies it profoundly, and at length writes a minute description of the results of his labours, in which he points out some anatomical facts of which no one formerly thought, and applies others already known to explain points in pathology which were before misunderstood; —but the idea of traversing the whole human body, and of writing a complete, regular treatise on its several organs and their constituent parts, never occurs to a pure English anatomist. It is certain, however, that a good vernacular treatise on anatomy is a thing that has been long much wanted;—for the English student who will not confine his reading to the pages of the London Dissector, Stanley's, Green's, or Shaw's Manual, has no alternative but to con over Portal, Sabatier, or Bichat,—or attempt what often proves a much more arduous task than either, to decipher the harsh and not unfrequently uncouth latinity of the most *illustrious* Soemmering.

These circumstances render the present work particularly seasonable; and while it is at this moment the only complete system of anatomy before the English student, it is but justice to say, that it is executed indifferently well. The learned author shows, that he is not only intimately acquainted with the literary history of his science, and the respective services of former anatomists, but that he both knows and appreciates the researches of recent inquirers, and the various acquisitions which the knowledge of the structure of the human body is daily receiving. He has spared neither pains nor research in collecting from every source, however remote and inaccessible, whatever facts might illustrate the subject of his work; some parts he has rendered more valuable and more worthy of reliance than they previously were, by new and accurate researches; and in others he has supplied the student of anthropology with knowledge which he did not previously possess.

The observations on the skull and face are interesting; the tables of its various dimensions in individuals of different nations, which bear every mark of accuracy, are valuable contributions to this department of osteology; and the account of the form which the skull presents in the four classes of the human race and their varieties, has the merit of collecting, under one view, much interesting information from many different sources. In the third part, in which the muscles are considered, the description of the fasciæ and tendinous expansions deserves attention. In the fourth part, the remarks on the minute structure of the stomach and of the liver, show the present state of microscopic research on these tissues; and Dr Monro has justly added the observations of Dr Yellowly on the villous coat of the former, and those of Abernethy and Wilson on the unusual distribution of vessels in the latter. The observations of Mr Bryce on the liver of fœtus might have been illustrated by those of Cheyne on the same subject. The account of the vesicular structure of the lungs, in part fifth, is curious, and will be read with interest. The sixth part, which treats of the nervous system, contains a great deal of valuable and accurate information from the writings of Vieussens, Malpighi, Albinus, Monro *second*, Reil, Prochaska, the Wenzels, Lobstein, Sir Everard Home, Bock, Soemmering, Lawrence, Tiedemann, Serres, &c. In short, this work is creditable to the industry and diligence of the author, and contains, in a small compass, much useful and curious information.

Whether it be, however, that it is impossible for any thing human to be perfect, or that it is the privilege of criticism to find fault,—we must avow that this work is liable to sundry objections, from which we could have wished it had been free; and as it can serve no earthly purpose to disguise these objections, we are confident, that the extreme candour of the author will be obliged to us for mentioning them. We have above spoken of one circumstance which distinguishes the state of anatomical science in France from that of the same science in this country. There is also, we remark, a striking difference between the modes in which foreign and British anatomists prepare their respective treatises. The French anatomist sticks closely to his subject, gives nothing but anatomy pure and unsophisticated,—and without conspicuous attempts either at exposition of final causes or practical application of anatomical facts, describes systematically and regularly the shape, situation, different parts, and component tissues of each organ. Even Portal, who professed to write for practitioners of medicine and surgery, has invariably separated his pathological discussions from his descriptive details. In the later French authors, as Boyer and Cloquet, this severe adherence to the rubric is still more rigidly observed; and it would be scarcely possible to discover, from reading their works, that the one was an eminent surgeon, and that the other was aspiring to a similar distinction in physic. In an English system, however, we have no idea of this undeviating attachment to mere anatomy,—this love of anatomy for itself alone. It is the useful to which the English writer always looks; it is the practical application of science that ever directs his course; he cultivates anatomy not for itself, but for its immediate application to pathology and surgery; and in order to make all more perfect and correspondent in its several parts, he borrows a few rays from the collateral lights of chemistry and physiology.

This is precisely the case with the present work, which exhibits, not merely the anatomy of the human body, but a little chemistry, a little physiology, a little pathology, and a little surgery. It contains not only an account of the shape, structure, and situation of the organs and tissues of the human body, but treats of their chemical composition, gives a good deal of information on the functions, some on the unhealthy state.

and morbid changes, and not a little on mechanical injuries, and on certain operations. It may perhaps be said, that information of this kind, if good, is so far from being a disadvantage, that it must be a recommendation. We admit it to be so; but, as all these subjects are best treated in works expressly devoted to the subjects of animal chemistry, physiology, and surgery, so we are inclined to think, that a treatise on anatomy should contain very little else but pure anatomy, with its most obvious applications only. It cannot fail to be perceived by the ingenious author himself, that, however requisite it may be to illustrate facts of structure and organization, with those tending to explain chemical composition, properties and uses, and to explain the principles of pathology and operative surgery, such a range forms too wide and extensive a field for any single work; and that there is but too much chance of sacrificing some of the essential points of its immediate object to those extraneous matters. We would not have Dr Monro imagine that we disapprove entirely of the introduction of such points of scientific information; but it is our belief, that in a work professing to be elementary, every thing of this kind should be as precise and as much condensed as possible.

This remark applies strongly to the chemical, and, in some instances, to the physiological parts of the work, which bear a proportion rather large to the anatomical. The only chemistry admissible into such a work, is that which is precise, accurate, and founded on the most recent experiments;—the only physiology, that which explains briefly the living properties of the several kinds of tissues, and the uses of individual organs. A complete account of functions belongs to physiology alone.

In all parts of the work, the author's love of authenticity has too often led him to give at full length the *ipsissima verba* of his authorities; even dates of letters and the epistolary form of address are not spared.

The pathological and surgical information is less liable to objection; and perhaps no system of anatomy should be published without certain short notices of those practical applications, the value of which we all come to ascertain in the treatment of diseases. In this respect, the work of Dr Monro cannot fail to be extremely useful to the student; for it contains, on every important question, all the best and most recent information; and it may be said, on the whole, to present a tolerably correct view of the state of anatomical science, with its applications to physiology, pathology, and surgery.

III.

A Practical Treatise on Hemorrhoids or Piles, Strictures, and other important Diseases of the Rectum and Anus: Being, with some additions, a Treatise, to which the Jacksonian Prize was adjudged by the Royal College of Surgeons. By GEORGE CALVERT, Member of the Royal College of Surgeons of London, and of the Medico-Chirurgical Society, &c. London, printed for Callow and Wilson, Prince's Street, Soho. 1824.

THIS is a particularly disagreeable book, either for the purpose of reviewing, or giving an account of its contents. Distinguished neither by remarkable excellencies nor by gross faults, it is written in that happy style of mediocrity which is said to be endured neither by gods nor by men.

" Too bad for a blessing, too good for a curse,
I wish from my heart you were better or worse."

Communicating information neither absolutely new, nor entirely unworthy of being known;—written neither with careless ignorance, nor with a proper display of elaborate research;—adorned neither by any original theory, or remarkable novelty of practice, it is extremely difficult to fix on any one circumstance as a leading character of the work. Books however of this description are sometimes useful, and the present is not a bad example. It collects into one body all the information which is diffused among the pages of some half a score of surgical and medical authors, concentrates whatever useful matter is to be found on the subject in the writings of Stahl, Cullen, Wiseman, Morgagni, Abernethy, Chaussier, De Larroque, Dessault, Pott, Ware, Charles Bell, Copeland, White, and even Howship; and endeavours to deduce from them whatever is sound in theory, and expedient and useful in practice.

The subject is Diseases of the Rectum and Anus; and the author discusses it in seven Chapters, under the following heads;—Hemorrhoids, Strictures of the Rectum, Morbid Contraction of the Anus, Prolapsus Ani, Fistula in Ano, Ulcers of the Rectum, and Excrescences, &c. about the Anus and within the Rectum. Each Chapter is subdivided into a certain number of Sections, more or fewer according to the importance of the subject,—in which, after premising sundry general observations, the author describes the symptoms, unfolds the pathology, and delivers the treatment of each disorder. The arrangement is distinct, and, upon the whole, is tolerably well observed; but the minuteness of the subdivision makes the book appear longer and more complicated than it actually is; and the author's mode of writing, which is somewhat diffuse, does not tend to counteract this effect. Perhaps the greatest fault of the work is want of condensation.

It is not our intention to follow Mr Calvert through all the devious windings of each Chapter; and we shall account our duty as passably well performed, if we glance merely at the most essential parts of his treatise, and if we attempt to communicate some general idea of the manner in which he treats of the several subjects which come successively under review.

To form a distinct and adequate notion of the diseases incident to the rectum, it is requisite to remember three circumstances; first, that the inner or free surface of that bowel is a mucous membrane, liberally supplied with blood-vessels from three large arterial trunks; secondly, that its outer or attached surface is connected to the contiguous parts by a peculiar cellular tissue which is described as very loose and very extensible, and which, even in the most slender subjects, is copiously supplied near its lower extremity with fat; and thirdly,—that the lower extremity or termination of the gut is furnished with two muscular organs, one of which retains it constantly closed, unless at those times when its power is overcome by the superior resistance of the diaphragm and abdominal muscle, while to the other is allotted the function of occasionally raising the extremity of the bowel, or drawing it, as it were, within its own cylinder. This arrangement of parts, with the several properties which belong to each component tissue, impresses on the diseases of the bowel and its lower extremity, that diversity of character and modification of symptom, which renders them at one time the subject of attention to the physician, at another to the surgeon, and not unfrequently demands for their successful removal the simultaneous cooperation of general and of local treatment. Thus the mucous membrane is the seat of disease in piles, in stricture, and in ulcers of the rectum; *fistula ani* always originates in disease of the surrounding cellular substance; morbid contraction of the anus appears in most cases to be the joint result of the muscular structure, and the inflammatory susceptibility of the lower extremity of the bowel in certain habits; and prolapse is very often dependent on a morbid state of the mucous surface acting on the muscular tissue and loose cellular membrane; while excrescences may be the result of primary morbid states, either of the mucous membrane or of the skin with which it is continuous. These considerations would have suggested to Mr Calvert a more natural and not less convenient arrangement than that which he has adopted; and would have enabled him to furnish a delineation in which the reader would have been led by a gradual transition from one part to another of his subject. In this manner the sixth chapter, on ulcers of the bowel, would have succeeded the first, or at most the second; the fifth chapter would have with more propriety have become the fourth; while the third and fourth would have then followed in order, if not as a suitable introduction to the seventh, at least as a proper termination to the previous chapters. In our subsequent remarks, we adhere to this arrangement.

Hemorrhoids, or Piles, the first subject treated by Mr Calvert, occupies a large proportion of his attention; and in this we shall not imitate his example closely. The history and pathology of this disease, especially in its active form, has been so completely and so successfully explained by Cullen, that it is almost in vain to think of adding to it with the hope of improvement. Accordingly, we find little on this subject which can reasonably be termed new. An erroneous physiological system, and ignorance of the actual fact, gave rise to the opinion, that the hemorrhoidal discharge proceeded from certain veins, which the same physiological system termed *hemorrhoidal*. Mr Calvert adopts what is the more correct opinion, that this blood issues from the exhalants, or minute capillaries of the mucous membrane of the bowel;—an inference which is confirmed, not only by the phenomena exhibited by the bowel in this morbid state, but by what pathological anatomy teaches in regard to the hemorrhages of mucous membranes in general.

It is somewhat different with hemorrhoidal tumors. These Mr Calvert properly represents as of two kinds; *first*, the firm fleshy tubercular masses which form the proper and genuine piles; and, *secondly*, the dilated vein, or hemorrhoidal varix; and though both have been confounded and considered identical by several practical writers, our author shows that their morbid structure is essentially different, and that there are just grounds for distinguishing them.

The opinion, that hemorrhoidal swellings depend *invariably* on an enlarged or varicose state of the veins of the bowel, appears to have been entertained not only in former times by Wiseman and Morgagni, but has been recently supported by Baillie, Sir Everard Home, and Mr Charles Bell,—the last of whom represents the hemorrhoidal tumor as "a firm fleshy excrescence, resulting from deposition of lymph and thickening of venous coats, with the extremity of the vein concealed within;"

and which, bursting from time to time, discharges blood when the gut is subjected to any considerable distention. This condition, however, though it occurs in a few instances, is by no means general. Mr Calvert quotes, after Montegre, the authority of Le Dran, to prove that the structure of the common piles is spongy or cellular, and of Richter and Cullen, to show that effusion of blood in the cellular tissue was concerned in their formation. The list might have been considerably enlarged, by referring to the works of Latta,[*] Benjamin Bell,[†] Professor Callisen,[‡] Monteggia,[§] Delpech,[‖] and other modern authors,—all of whom agree in representing the hemorrhoidal tumour as consisting chiefly of extravasated blood. The authority of Chaussier and Larroque is then adduced, to show that these bodies consist chiefly of a reddish homogeneous parenchyma, which discharges, when pressed, pure bloody serum, or limpid serous fluid, and which may be rendered white by washing or maceration.

"It should be remarked," says Larroque, "that even in cases where there are varicose veins, this cellular parenchyma is never wanting; so true it is, that to its development the formation of hæmorrhoidal tumours must be attributed. In general, wherever veins are discovered, they are placed between the exterior and this organized tissue, and are lost in very minute ramifications. This general disposition of the veins is an additional proof that these hæmorrhoidal tumours do not proceed from varices, for in that case they would be found distributed in the body of the tumour, and not upon their surface." p. 33.

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[*] "The hardness of the large blind piles already mentioned, is occasioned by an effusion of blood into the cellular substance which surrounds the veins of those parts; for though, in the beginning of the disease, the veins certainly do dilate without bursting, yet this cannot be the case where they have attained to any very considerable size; and in general we may always conclude, that unless when the hæmorrhoids are soft and easily compressible, there is undoubtedly an effusion of blood into the surrounding cellular substance."—A Practical System of Surgery. By James Latta, Surgeon in Edinburgh. Edinburgh, 1795. Vol. ii. Chap. iv. p. 34.

[†] "These tumors have commonly been supposed to proceed from a mere dilatation of the hemorrhoidal veins. In the incipient state of the disease, while they remain small and circumscribed, this may frequently be the case; but whenever they become large, they will almost constantly be found to be connected with an effusion of blood into the contiguous cellular substance."—A System of Surgery. By Benjamin Bell, Member of the Royal College of Surgeons of Edinburgh, &c. &c. Edinburgh, 1801. Vol. vi. 7th Edition. Chapter xxxiv. p. 324.

[‡] Henrici Callisen, Systema Chirurgiæ Hodiernæ, Hafniæ, 1817. Vol. ii. Editio 4ta. "Hujus morbi principium est expansio varicosa vasorum hæmorrhoidalium in cavam vel mesaraicam venam se exonerantium, *vel etiam sanguinis in telam vicinam effusio;* neque arteriæ vicinæ ab hoc morbo plane immunes sunt, e quibus ab aucto impulsu sanguinis cruor transudare et vel *in cellulosa vicina accumulare potest*, vel sanguifluxum inducere. Vol. ii. clxvii. p. 126.

[§] Istituzione Chirurgiche. Di G. B. Monteggia. Milano, 1816. Volume viii. Capo xv. 389. p. 198.

[‖] Precis Elementaire des Maladies reputées Chirurgicales. Par J. Delpech, Conseiller Chirurgien du Roi, &c. &c. Paris, 1816. Tome iiime. Section viii. Chap. i. § ii. p. 262.

This differs not materially from the opinion of the author, who describes the interior of these tumours in the following manner:—

"These tumours very often contain a central cavity, filled with fluid, or coagulated blood, which is of a brighter or darker red according to the length of time it has been effused. The lining of the cyst is either smooth or granulated; and by the assistance of the microscope in the dead subject, after having forced into the arteries by which they are supplied with blood some fine and coloured injection, a few minute vessels may be traced, through which the fluid gradually exudes into the above-mentioned cavity; but there is evidently no connection whatever with any of the larger vessels.

"This cavity is usually small, not exceeding the size of a pea, but it is sometimes large enough to contain several drachms of blood.

"More generally, however, there is no regular cyst, but the substance of the tumour is infiltrated with blood, which eventually becomes dark and coagulated. This blood does not appear to be the result of common extravasation, since it is not generally diffused, as in ecchymosis, but confined in separate patches of different shades, presenting a variegated aspect when the tumour is cut into; on closer examination it appears as if it were contained in dilated vessels, which traverse the tissue in the direction of the long axis of the rectum, so that, if the tumid part be divided longitudinally, they present numerous dark streaks through the substance, but, if the section be made transversely, small roundish specks only appear." pp. 23, 24.

The truth is, that these tumours consist partly of blood not exactly extravasated, but rather accumulated and stagnating in enlarged and distended bloodvessels,—partly of coagulable lymph—and partly of minute bloodvessels, either newly developed, or the ordinary capillaries of the mucous membrane greatly enlarged. When the ordinary hemorrhoidal attack has recurred repeatedly so as to form tumours, the mucous membrane of the rectum is at once extruded and elongated, its vessels increase in size and become more numerous, and if they burst, may discharge blood into the submucous cellular tissue; but it is almost invariable that lymph is effused; and this undergoing coagulation, and afterwards a degree of organization, gives the tumour the firm fleshy character by which it is distinguished. It is in the newly developed vessels that the blood is situate, which is described by Mr C. and M. Montegre as *not* resembling ecchymosis, but disposed in regular and isolated patches; and it is the effusion of lymph, which so thoroughly counteracts that general extravasation through the cells, which M. Montegre has justly remarked, is never observed in the genuine hemorrhoidal tumour.

From these tumours blood may be discharged in two ways; either by exhalation from the mucous coat of the rectum, by which they are partially enveloped;—or when, during a false or natural effort, the tumours are forced down and grasped by the sphincter, by a small quantity of pure florid blood issuing in a fine stream from one or more small orifices, which may be distinguished on the body of the tumour. The occasional occurrence of these hemorrhages is always followed by reduction of the size of the tumours, which become flaccid and less painful, until, after some time from the operation of the same causes, local and constitutional, they become large, tense, and as painful as before. This course of events is repeated many times, until the tumours are either converted into a hard, solid, tuberculated ring, causing much pain, and almost incessant prolapse of the bowel,—or inflame, suppurate, and form bad and tedious sores, with considerable destruction of the contiguous parts.

These tumours, in their acute state, further present a difference in the living body and in the dead subject, so remarkable, that Mr Calvert, who has studied it with attention, regards it as worthy of particular notice to the pathologist. He remarks, that, after death, we almost invariably find that tumours within the anus contain either distended veins, or condensed cellular tissue; but rarely present, unless where death has taken place suddenly, that moist spongy substance, which is observed during life, and which proceeds from infiltration of fluids and the distended state of the capillaries; and he naturally enough ascribes this infiltration and distension to the vital processes causing an accumulation of fluids in parts disposed to receive them.

"In the dead subject, these tumours, which, during the hæmorrhoidal paroxysm, were fully distended, are found more or less collapsed, and the veins, which, prior to death, constituted but a small part of the swelling, and ramified chiefly between the body and envelopement, now occupy the centre, and are, both from their colour and size, the first objects that arrest the attention, when the latter part is removed for the purpose of investigating their nature. Hence it is, that, even in cases where the above-mentioned swellings were formed during life by a congestion in the capillary vessels, the veins on dissection are often found enlarged, forming, together with the fine skin of the anus, or the villous coat of the rectum, the chief parts of the tumour.

"In other cases, where these tumours have been of long standing, a new substance is formed, the interstices are filled up from repeated accessions of inflammation, by which the parietes of the minute vessels are strengthened and elongated, and new matter deposited. Under these circumstances, the volume of the tumours, not being very materially increased by the accession of circulating fluids, continues nearly stationary after the phenomena of vitality have ceased." pp. 35–37.

The second sort of hemorrhoidal tumours, termed *varices*, are much less frequent. They are generally of a dark or bluish colour, soft and elastic to the touch, resembling the ripe grape, yielding to pressure, but returning to their former state when the pressure is withdrawn. They are rounder and broader at the base than the true hemorrhoidal tumour, distributed sometimes in irregular and ill-defined clusters like similar affections of the *saphenæ* veins, betraying no disposition to bleed unless when ruptured or cut into; and, when once formed, increasing gradually, or remaining almost stationary through life. Though they are usually found at the extremity of the rectum, yet they may generally be traced to some extent up the bowel, whereas the true hemorrhoidal tumour is generally external, and almost invariably within reach of the finger. Valsalva, Morgagni, and Richerand, had described examples of this morbid state of the intestinal veins; and Mr Calvert gives the following description of their condition in the body of an old man, who had for several years suffered great inconvenience from what had been termed *piles*, and who had died of disease of the prostate gland.

"The appearance of the rectum was very irregular, from the enormous distention of the hæmorrhoidal veins, forming large tumours, or rather swellings in some parts, and producing in other parts an undulating appearance of the mucous membrane. On puncturing the largest of these swellings, which was situate immediately above the sphincter, and equal in size to a pigeon's egg, a quantity of coagulated blood was forced out by pressure; and water, which was injected through the aperture with the common syringe, passed readily through the whole chain of tumours, which, during life, must have filled up nearly the whole of the rectum." pp. 41–42.

"This disposition of the hæmorrhoidal veins to become enlarged, as demonstrated by dissection, shows how necessary it is to ascertain the true nature of all tumours about the rectum or anus previous to employing the knife for their removal, since the hæmorrhage must necessarily be always dangerous, or may even be fatal. Fatal cases have also been recorded from a rupture of the parietes of these vessels; and the degree of hæmorrhage may be computed when we consider, that, according to some authors, these swellings have been found nearly as large as the fist." p. 44.

The genuine hemorrhoidal tumour, we have already stated, is liable to inflammation, and its usual consequences. This accident forms the subject of the seventh section; in which he has recorded a case of its occurrence.

In the eighth section, on the causes of hemorrhoids, the opinions of Stahl and Cullen are canvassed; and the justice of those principles, which ascribe the formation of this disease to national habits or national peculiarities, is brought under consideration. The author is disposed to confirm, by personal observation, during a residence of some months in Greece and Turkey, the remark of Boerhaave, that it is more frequent among the Eastern nations than elsewhere; and he ascribes its prevalence among the Turks to the sedentary habits, improper food, and amorous propensities of the votaries of Islamism; but, in contradiction to the statement of Schulzius, he asserts, that the inhabitants of Poland are not more subject to the complaint than those of any other country in Europe. Derangement of the digestive organs, he is disposed with Mr Abernethy to regard as a fertile source of local diseases, and especially of those of the rectum, in which he thinks the irregularities of action, which result either from intemperance or original organic weakness, are very likely to induce actual disease. Nor is a very low diet or habitual abstemiousness less injurious; and, in Italy and other Catholic countries, where, from motives of penance, or the religious observance of seasons of fast, many individuals restrain themselves to poor and scanty diet, the torpid and constipated state of the bowels which ensues, is said to be favourable to the formation of piles.

"Morgagni," he remarks, "illustrates this fact by referring to the life of Sarpi, who, when a young man, having taken little food, and drank nothing for several days, was affected with obstinate costiveness, which produced piles, and a troublesome prolapsus of the anus." p. 66.

Considerable weight is also given to the general opinion of the injurious effect of the irritating and drastic purgatives. Thus aloes and colocynth are both accused of exercising a very hemorrhagic influence on the lower part of the colon; and even rhubarb, after the example of Frederic Hildebrandt, is not spared. It is not easy to say how far the inference which derives such formidable effects from medicines in so common and frequent use is well founded. That colocynth, scammony, hedge-hysop (*gratiola officinalis*), and other acrid substances, are capable of producing bloody stools, is admitted by all toxicological writers; and all drastic purgatives are liable to produce prolapse of the bowel, and some degree of strangulation by the sphincter; but it is well known to practitioners, that many persons are for years, nay, sometimes for a whole life, in the habitual use of medicines containing invariably aloes, and often colocynth or scammony, or both, without suffering any thing like hemorrhoidal symptoms; and perhaps nothing short of an induction of facts somewhat copious, could warrant the conclusion that rhubarb is in any circumstance capable of producing such results. With the same propriety Mr Calvert might have added sulphate of soda from the same authority; and no purgative medicine will be entirely blameless, or safe to be used.

In all inferences regarding the hemorrhagic effect of purgative medicines, a great source of fallacy consists in the fact, that the same sort of subjects who require their frequent administration, are most liable to attacks of vascular congestion and hemorrhage from the colic mucous membrane. Costiveness is admitted by all to be a general cause of hemorrhoidal disease; and it is not difficult to see how it should operate in deranging the circulation of the lower extremity of the bowel. It is precisely by such subjects that medicines of the kind condemned by Mr Calvert in common with other authors, are most frequently used; and whenever they are attacked with a hemorrhoidal paroxysm, the occurrence of the disease is forthwith ascribed to the circumstance which is most obvious, and which requires least trouble of observation or inquiry. The logical rule of "*post hoc, ergo propter hoc,*" is admitted by such reasoners in its fullest extent and most unreserved application. Yet there is no rule which is liable to a greater number of exceptions in its application to medical inquiries; and none which the medical reasoner should adopt with greater caution in tracing the causes concerned in the production of disease. In short, the opinions and the facts which one author after another has repeated on this subject for years, are so vague and so imperfectly established, that they scarcely deserve attention; and ought not, unless after precise inductive investigation, to be admitted among principles that are ascertained.

The treatment is divided by our author into general and local. Under the former head the ordinary plan of medical management is distinctly explained; and, while the danger of sudden or injudicious repression of the hemorrhoidal discharge receives proper attention, the influence of suitable diet and regimen is not forgotten. Though Mr Calvert does not entertain such extreme apprehensions of the sudden suppression of the attack either by topical applications or other means, as actuated the practice of the Stahlian school, he is not entirely a disbeliever, and he is prepared with practical measures accordingly.

"In cases," he remarks, "in which the suppression of the attack is followed by violent pains in the abdomen, by hemorrhage from the lungs or stomach, or, in fact, by any affection that appears to be associated with it, it is generally advisable, not only to employ such means as the urgency of the case may require, but, if possible, to produce a revulsion to the vessels of the rectum. Warm stimulating fluids should be injected into the rectum, and the patient should sit over the steam of hot water. If these means fail, leeches should then be applied around the anus, or recourse may be had to electricity for the same purpose. The latter method is strongly recommended by Desault, who states that he has derived great advantage from it; both for himself and others." p. 83–84.

Though this method may do in some instances; it will in many be found too tame, and utterly inefficient; and the practitioner will find his interest in treating a case of tense headach or coma, or of pain in the chest or belly after suppression of the hemorrhoidal discharge, with a full bleeding until the urgent symptoms disappear, precisely as he would do, had they not been preceded by such suppression.

Local treatment is not in all instances of hemorrhoids requisite. If, under the general remedies, aided by proper diet and regimen; the hemorrhage has ceased, it may be presumed that the congestive or inflammatory stage of the disorder has subsided, and that the mucous membrane of the bowel will speedily recover its natural state, when local applications are unnecessary. But if, either from the inefficiency of the general remedies, or after repeated attacks of the disease; the extremity of the rectum becomes puckered into several firm tumours somewhat painful; then it is incumbent on the practitioner to attempt their removal by local measures. These may be included, according to our author, under,—first, the application of particular substances, chiefly those possesing astringent properties; secondly, compression; and, thirdly, operation either by knife or ligature.

The tumours of the first kind, the genuine hemorrhoidal swellings, if attended to early, are generally capable of being removed by the first of these methods; for example, strong solutions of sulphate of zinc, decoctions of oak bark, with sulphuric acid, applied as lotions, or the gall-ointment as a permanent application. In Italy, our author saw the internal part of gourds and other fruit employed topically,—a practice which he ascribes to the example of Albertini as reported by Morgagni (Lib. XXX.); but he might have added, that saturnine lotions and infusions of mallow, or pellitory, cataplasms of baked apples, and oily applications, are frequently used. * Local detraction of blood by leeches, or puncture by the lancet, has long been

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* Monteggia, Istituzione Chirurgiche, tom viii; p. 200.

practised, both in this country and on the Continent, as a means of alleviating the pain, and reducing the size of hemorrhoidal tumours. The former practice is commended by Schmucker and Ware, we add by Monteggia * and Callisen, † the latter by Petit and others, as Delpech; while the application of leeches to piles is opposed by Richter and Montegre, on the ground that the leech-bite generally irritates the tumour considerably. The author, after this example and that of Wiseman, recommends the use of leeches only when the discharge has been suppressed, and trusts to cupping from the loins, and cold washes and injections.

Compression is suited chiefly to those cases where there are several tumours within the anus, which become united at the sides by a degree of adhesion, so as to obliterate a portion of the cavity of the bowel. The author saw a case of this kind cured in one of the Italian hospitals by frequent emollient glysters and gentle pressure from a bougie. M. Dupuytren, on the contrary, destroys them by the actual cautery, so as to produce sloughing and suppuration.

On the same principle of compression, various mechanical contrivances have been employed to prevent the descent of the bowel and its consequent strangulation by the sphincter. The author disapproves of all the means used by most of the French and German surgeons, and thinks the only serviceable plan is that of Professor Chaussier, which consists in placing together layers of wet lint, until the surface of the compress is nearly on a level with the buttocks, its apex being directed towards the anus. Benjamin Bell was in the habit of recommending for suppressing bleeding within the rectum, a piece of sheep's gut tied at one extremity, to be introduced into the bowel and distended with water, till sufficient pressure was made on the rectum to accomplish the purpose. ‡ We have successfully used this contrivance, not for the suppression of bleeding from the rectum, but to prevent its protrusion, and also in the female to prevent prolapse of the womb; and we are disposed to think, that, in the generality of cases, it will give less uneasiness, and be more effectual than the method of Chaussier.

On the comparative merits of the ligature and of the knife, Mr Calvert quotes various authorities, ancient and recent. Wiseman was in the habit of cutting over hemorrhoidal tumours freely by the knife or scissors; and more recently Mr Abernethy has for many years followed the same practice. Latta

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* Monteggia, Istituzione Chirurgiche, tom. viii. p. 200.

† Systema Chirurgiæ Hodiernæ, vol. ii. p. 129.

‡ System of Surgery, Vol. vi. chap. xxxiv. p. 120.

recommends the scalpel as a general remedy, and prefers it on all occasions to the ligature. Benjamin Bell, though he admits the application of ligatures to tumours with broad or narrow base indiscriminately, and more especially if there is reason to think that the blood-vessels are large, is however favourable to the knife; and Monteggia and Delpech both recommend excision. The objections to the ligature consist in the serious symptoms which in some cases have followed its application; pain and tenderness of the belly, sickness and vomiting, general irritation and sometimes convulsive motions; in short, all the symptoms of severe intestinal inflammation with nervous commotion are liable to supervene; and instances have been known in which the termination was fatal to the patient. For these reasons, Mr Calvert follows Copeland in dissuading the surgeon from the use of the ligature, and thinks the general practice of surgeons and the effects of excision, show evidently that it is the safest practice for the removal of the genuine pile. The line of distinction for the respective use of these two methods, is, in our mind, easily drawn. The bad symptoms which result from the application of the ligature to hemorrhoidal tumours, unquestionably depend on the circumstance of a portion of the bowel being included; and the injury done to one point of its mucous surface, speedily excites inflammation, as in strangulated hernia, over a considerable extent. Wherever, therefore, the covering of the hemorrhoidal tumour consists chiefly or entirely of the mucous membrane of the rectum, the ligature *must on no account* be employed, or at least this part *must not be* included. Wherever, on the contrary, this covering consists of the loose skin near the anus, it may be tied with impunity. It is not always easy for the surgeon to make this distinction in the mass of disease, which piles requiring operation present; and the knife is in all circumstances the safest remedy.

Mr Calvert thinks the two fatal cases recorded by Petit and Gottlieb were varices, which he says ought not to be opened under any circumstances.

On stricture of the rectum, which is considered in the second chapter, the information of our author is neither novel nor extensive. The subject, as far as it is known, has been nearly exhausted by Home, Copeland, Charles Bell, and White; and it is chiefly from the writings of the last three that Mr Calvert has collected his information. After speaking of a form of stricture resulting from spasmodic contraction of the transverse muscular fibres of the bowel, he makes the following observations.

"In some cases the contraction is chiefly owing to a thickened and indurated state of the mucous membrane, arising from inflammation, or some chronic alteration of texture. When inflammation does not proceed to any great extent, coagulable lymph is deposited between the coats of the rectum, or upon its internal surface: this becoming organized, produces a permanent thickening, with a proportionate diminution of the cavity of the gut, and a gradual contraction of the muscular tunic. Indeed, whenever the mucous membrane of the intestines is constantly irritated at any particular part, which, in the present instance, must necessarily be the case, from the mechanical effects of the fæces upon the part which projects within; or when it puts on any chronic action; there is always more or less disposition in the muscular coat to contract gradually upon it. Hence, whenever strictures of the rectum have existed for any considerable time, the mucous, cellular, and muscular coats become more or less affected, so that, on dissection, it is often impossible to determine in which the disease originally commenced." pp. 126–127.

There is great truth in this account; for perhaps in nineteen out of twenty cases, the contraction which takes place in a canal lined by a mucous membrane, is the result of inflammation of one kind or other in that membrane; and, though the practice of surgery makes us most familiar with this phenomenon in canals which are narrow, as the lachrymal duct and male urethra, and the upper and lower extremities of the œsophagus in both sexes, yet the same cause may be followed with the same effects in any mucous canal of the human body. Hence it is that dysentery, especially in its tropical form, is so often succeeded by permanent contractions of the colon and rectum; and even in those instances in which the approach of the disease is slow and gradual, its origin can generally be traced to some sensations of pain and unusual suffering, referred to the inner membrane of the bowel.

On that form of stricture which depends on the growth of tubercular masses, from the mucous or submucous tissue, the authority of Morgagni, Dessault, and Mr White, is adduced. A good instance might have been added from the Clinical and Anatomical Observations of Dr Stark,—the unfortunate victim of his own experiments.* Cancerous stricture, as a cause of contraction, is known to all; of the contraction ascribed by some to the venereal poison, Mr Calvert justly doubts the existence.

In the treatment the bougie is recommended; but its consistency must be accommodated to the size and firmness of the stricture. When the bougie, however soft, cannot be borne, tents consisting of slips of linen, dipped into ointment or cerate, or a portion of prepared gut, may be employed. When the stricture consists of a narrow hardened septum, within reach of the finger, and the bougie is either too tedious or does not agree, division by a probe-pointed bistoury is the most effectual mode of removing the obstruction. The subsequent use of a tent, however, is requisite. Where the disease is cancerous, the treatment can be only palliative. The Section is concluded with some observations on obstruction of the rectum from concretions, accumulation of hardened excrement, and the formation of tumours in the vicinity.

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* The Works of the late William Stark, M. D. London, 1788. 4to. p. 7, 8, &c.

The subject of Ulcers of the Rectum, which is treated in the Sixth, comes next in the natural order of affairs. The portion of our author's remarks which chiefly deserve commemoration, are the following on the chronic form of the process.

"In many cases it appears to take place subsequent to or in conjunction with chronic inflammation of the mucous membrane, when the situation and extent of the disease is not difficult to ascertain (if brought into view), in consequence of the dry and dusky red appearance of the former. This state of the parts is usually accompanied with a dry costive state of the bowels, and impaired appetite, and other symptoms arising from a torpid state of the intestines. In general there is not much pain in the gut: and although the patient is often troubled with tenesmus in a certain degree, yet this, in general, is by no means so troublesome as might be expected from the extent of the ulceration. Fig. 2. is a sketch of this disease, taken from the body of an elderly female, to whom in conjunction with other causes, it had proved fatal. The mucous membrane, to a considerable extent, presented a dryish and deep red appearance; and the ulcerations shining and imbued with a whitish matter, were very conspicuous; but owing to the want of colouring, the sketch conveys but an imperfect idea of what it is intended to represent." pp. 327—328.

Another form of the disease is thus described:—

"Ulceration of the rectum not unfrequently puts on a more severe character than the preceding; the surface of the sore is deeper, the edges hard and irregular; it spreads with more rapidity, and the surrounding parts of the mucous membrane are affected with an erysipelatous inflammation, which sometimes extends without the anus. In this case there is much more constitutional irritation, and all the local symptoms, as well as such as are called into action by the peculiar sympathies with the adjacent parts, are aggravated. This, which may be termed the phagedenic sore. I am inclined to think, generally proceeds from an acrid state of the biliary and other secretions, in conjunction with more general causes; indeed I have remarked, that all ill-conditioned ulcers are more or less connected with an unsteady condition of the bowels, and an impaired habit of body, existing prior to their formation." pp. 328—329.

He also believes in ulceration of this bowel, independent of previous inflammation, and quotes two cases in elderly men, whose health appeared broken by intemperance, in whom, after death, the inner surface of the gut, though in other respects natural, was studded with small deep ulcers, covered with a dirty yellowish matter;—in some parts of which cicatrization had taken place. This is not conclusive. The rest of the section is more rational, and may be perused with advantage.

The treatment of ulcers in this part of the mucous system, is to be conducted on the general principles which regulate the treatment of ulcers in mucous membranes in general. Where they do not cause much constitutional disturbance, the local application of astringent and sedative remedies will in general be adequate to the cure. Mr Calvert recommends lint steeped in moderately strong solutions of blue vitriol, or the nitrate of silver; and, if the sores are visible by means of the speculum, the application of the caustic in substance. The white vitriol, or common alum solution, will also be useful; and during the intervals, either of the zinc ointments, the calamine cerate, or the white zinc ointment, may be applied with advantage. Where the sores are attended with much pain, opiate suppositories have been followed with the best effects. Mr Calvert has seen the acetate of morphia very soothing, even in cases of cancerous ulceration; but it is needless to say, that nothing can be expected to cure in such circumstances. The general treatment delivered by the author is on the whole rational; but we do not approve of the blue pill.

The subject of Fistula Ani could not fail to awaken the remembrance of Pott, whose happy talent of description, and clear method of viewing diseases, divested of the complicated technicalities of the elder surgeons, long ago rendered this disease and its treatment familiar to the English student; and the fifth chapter is accordingly begun with an acknowledgment of the benefit derived from his writings; and an expression of regret, that the practice occasionally pursued in this enlightened country, too often betrays ignorance, or neglect of the principles laid down by this great surgeon. The chapter is short, and avowedly takes a rapid and rather imperfect view of the subject. Every fistula is the result of inflammation of the cellular substance surrounding the rectum and anus; and it is impossible to understand either the formation or the nature of this disorder, without a previous knowledge of the forms of inflammation to which this cellular substance is liable. In the first section, the author considers these forms of inflammation under the head of simple phlegmonous abscess, gangrenous abscess, and those chronic collections of matter that take place from ulceration near the lower end of the gut, or that are connected with other diseases. The description of each form is tolerably accurate. The section on Treatment is more elaborate; and the author unfolds the principles, and lays down the measures of cure, distinctly and judiciously. As he proceeds, he shows in what manner mere phlegmonic inflammation may terminate in the formation of sinus and fistula, and what management the pathological nature of each particularly requires. Dwelling strongly on the connexion of these disorders with the state of the general health, and on the degree of integrity enjoyed by the digestive organs, he inculcates on the surgeon the necessity of attending diligently to their condition, and of regulating all his measures of local treatment accordingly.

A knowledge of the course of the fistula, which is requisite previous to operation, can be obtained only by examination of each case by the probe. Mr Calvert, however, adduces the authority of Dr Ribes of Paris to show, that the upper part of the sinus is usually on a line with the internal opening, which is almost invariably either immediately within the anus, or just above the limit of the internal sphincter muscle. In seventy-five subjects which Dr Ribes has examined during the last twenty-five years, he found the internal orifice situate most frequently a little above the place where the union takes place between the skin and the mucous membrane of the rectum; in several it was not more than three or four lines above this point; and in no instance did its situation exceed five or six inches. The opening was ragged or torn in all; in the greater number it was soft; but in a few it was hard. The exact course of the fistula, traced in the same subjects, was variable; but, in most cases it appears, after proceeding from the bowel, through the contiguous cellular substance, to have passed either between the mucous membrane and the internal sphincter muscle, or through the fibres of this muscle, then between it and the longitudinal fibres of the gut, and lastly, through the fibres of the external sphincter, when it penetrated the skin at a greater or less distance from the lower end of the bowel. From these researches Dr Ribes infers, rather inconclusively, that, " in nearly all cases, the fistula is effected in a pile, and that its passage is sometimes determined by some vein of the hemorrhoidal plexus. " This does not agree with the observation of other pathologists.

In the business of operation, though Mr Calvert prefers the knife, yet he does not exclude the ligature entirely. In this country, the majority of good surgeons have justly relinquished the use of the ligature; and both reason and experience would regard a clean incision by a sharp instrument as greatly superior to the tedious process of contusion and ulceration, either by the silken skein or the leaden wire.

The chapter on Morbid Contraction is long and elaborate. The author enumerates and discusses the various causes of this organic change with research and attention; and the result of his inquiries may be referred to the following heads:—Adhesive inflammation of hemorrhoidal tumours; thickening and consolidation of the fine skin of the anus, and of the adjacent cellular membrane, in consequence of chronic inflammation; the growth of tubercles on the inner or mucous membrane of the anus; the effects of the venereal poison according to Delpech; cartilaginous induration of the inner membrane of the anus and part of the rectum; spasmodic contraction of the fibres, either of the sphincter or of the rectum; and carcinomatous induration of the lower end of the bowel.

The treatment, by local antiphlogistic measures, by operation, by division of the sphincter muscles, and by the bougie, must be suited to the nature of the pathological cause of contraction.

Prolapse of the Anus, which is discussed in chapter fourth, is the effect of various morbid states of the bowel, its lower end, or its component parts. Rarely a primary affection, it occurs as a symptom, or an effect of many morbid states either of the intestinal canal, or of the textures which compose its lower extremity. The mechanism of the protrusion is well explained by Mr Calvert.

"It should be remembered, that a considerable portion of the rectum is not covered by the peritoneum; that this portion is connected by a loose cellular tissue to the lower part of the sacrum, and anteriorly to the urinary bladder or the vagina, according to the sex; but in such a manner, that when this tissue is relaxed, it is capable of considerable motion in every direction. That portion of the gut, which is immediately above the upper limit of the internal sphincter muscle, is much wider than the rest. The inner membrane of the rectum is also much thicker, more vascular than that in the other parts of alimentary canal, and when the gut is not distended, it forms numerous folds, that project more or less into the cavity, and which, from their usual position, are generally termed the longitudinal and transverse columns of the rectum. Their formation is evidently owing to the natural structure of the inner membrane, which cannot adapt itself to the excessive degree of extension and collapse to which it is unavoidably exposed; and when it is infiltrated with fluids, or much relaxed, these folds are very conspicuous.

"The inferior portion of the gut, to the extent of an inch and a half, is inclosed by the internal sphincter muscle, which with its fellow close the orifice: whilst protrusion is prevented from taking place, partly by the natural connection of the peritoneum above, and the surrounding organs, but more especially by the joint action of the levatores ani and sphincter muscles. The termination, however, of the mucous membrane of the rectum, constituting the fine skin within the anus, is naturally rather loose, so that even in a healthy state it is often in some degree protruded when at stool; a contrivance that materially facilitates the transit of the excrement when the bowels are constipated, and prevents also the verge of the anus from being excoriated, which would often be the case, if this part were susceptible only of being dilated, without yielding in other respects.

"With this view of the structure and physical properties of these organs, and their relative position and connection with the adjacent parts, it is easy to perceive, that the force of the diaphragm and abdominal muscles, in the effort to expel the fæces, or when forcibly called into action by any other cause, must necessarily be in a great measure directed against the rectum and anus, as occupying the most dependent part of the pelvic cavity, and being the only parts that, when the abdominal muscles contract, are susceptible of yielding to the pressure of the viscera. Now so long as the parietes of the rectum and anus, together with the levatores ani and sphincter muscles, continue in a healthy state, no displacement whatever can take place without extreme violence, the efforts of bearing down being directed from these parts to the contents of the intestine, and which are therefore expelled; but when the resistance afforded in the natural and healthy state of these parts is weakened, whilst the parietes of the gut and the muscles that contribute to support them are mutually relaxed, and the compression and straining is unusually great, or when, which frequently happens, these causes act conjointly, either a partial or more complete prolapsus may very easily take place." pp. 240—243.

The rest of the section on the causes, which may concur to produce this protrusion, or to render it permanent, shows an intimate acquaintance with the complaint; and in the section on the treatment, and on the management of intus-susception, we have a proof that the author is familiar with all the accidents and inconveniences which combine to perplex and disappoint the surgeon in his efforts to cure this painful and disagreeable disorder.

Of the last chapter, on Excrescences within the Rectum, or about the Anus, we need not speak at large. These bodies are so various, and proceed from so many different causes, that they defy arrangement; and the names given them are so numerous *(fici, thymi, condylomata, cristae, &c.)*, that it is impossible with any advantage to attempt even enumeration, much less distinction. Mr C. treats of Warts, Fleshy Excrescences, Red Nipple-like Excrescences, Polypi, &c.; and the treatment respectively adapted to each.

We have thus shortly glanced at the principal contents of this volume, and attempted to communicate some idea of the manner in which the author has discussed his various subjects. It is manifest, that the chief sin of the work is that it is too diffuse; and that the substantial information which it conveys, is not reduced into that narrow compass within which it might have been comprised. It is, perhaps, scarcely a palliation of this error, that the treatise of Mr Calvert was a successful Prize Essay before the London College of Surgeons; for when the author determined on publication, it was his duty to retrench whatever was found in other authors, unless in so far as that was requisite to incorporate with the results of his own observation and research. Notwithstanding these defects, however, it is a book which the practitioner will peruse not without advantage.

IV.

Review of the Elements of Operative Midwifery, with a Description of certain New and Improved Powers for assisting Difficult and Dangerous Labours; illustrated by Plates. With Cautionary Strictures on the improper use of Instruments. By David D. Davis, M. D. &c. &c. and Lecturer on Midwifery, London. pp. 345. 4to. London, 1825.

From the nature of the profession of Midwifery, and the number of medical men of acknowledged talents engaged in its practice, it is a matter of some surprise that so little has been done for the advancement of the operative department of the art, and the improvement in the construction of instruments. To these subjects, the whole of the extensive and handsome volume before us is devoted.

In publishing this work, Dr Davis has thought it necessary to guard himself against the imputation which might have been raised against him, of a fondness for the use of instruments in the ordinary practice of midwifery. But we are persuaded that the contents of this volume will be amply sufficient to exonerate the author from such a charge. To use the author's words, we are sure it will be seen, "that there are no inducements held out in the present publication for rash experiments on human life; and that the few additional or improved powers which it professes to furnish for the art, are not recommended to be employed, excepting by persons of ample competence both to judge of their expediency, and to use them with perfect dexterity and success." (p. 16.)

The work before us is divided into Five Sections, and is illustrated by twenty well executed lithographic plates, representing the instruments and parts, of their full size.

The First Section contains general and introductory remarks on operative midwifery, in which the author endeavours to point out the circumstances which have hitherto impeded the improvement of this branch of the obstetric art, and which render its study necessary.

The Second Section is entitled, "Of the Use of Obstetric Instruments." It commences with a concise view of the mechanical powers hitherto employed in midwifery.

"To assist nature in overcoming the difficulties which are casually produced by the operation of those agents, is properly the province of Instrumental Midwifery. When this object is attained compatibly with the preservation both of the mother and her offspring, and without inflicting a serious injury on either, then, indeed, is the triumph of our art complete. But the difficulties of some unfortunate cases are so great, and of such a nature, as to compel us to restrain our hopes of success within narrower limits, and to direct our principal, and, perhaps, our exclusive efforts, to save one life, and preferably, if practicable, the more valuable life of the mother. Hence obstetric instruments have usually been distributed into two principal classes: the first consisting of two or three varieties of power; but possessing in common the competency of being used compatibly with the salvation both of the mother and her offspring; and the second including all cutting instruments, and such as may be required to be made use of as auxiliary to cutting instruments; and, therefore, whenever unhappily resorted to, necessarily implicating, either the certain destruction of life, as in Embryotomy; or much risk of it, as in the case of the Cæsarean Section." pp. 24—25.

He then proceeds to treat of the first class of obstetric instruments, consisting of the forceps, lever, blunt hook, and stilette, for discharging the *liquor amnii*. He speaks of the modern obstetric forceps, urges weighty objections against the French forceps, notices a few of the principal varieties of the English forceps, and then proceeds to the description of his own forceps, and the best mode of their application; and this is the only point on which we have any important difference of opinion. Our objections to Dr Davis's forceps, is to their great breadth, which, in ordinary hands, must render their application difficult. Dr Davis's forceps are curved, but we give the preference to the straight forceps, as recommended by Dr Haighton. The curve only complicates the application, and, if they happen to be applied with the concave edge towards the face instead of the convex, there will be considerable risk, we would almost say a certainty, of tearing the perineum, when the head is coming through the *os externum.* Candour obliges us at the same time to observe, that there is one important improvement in the locking part of his forceps. The ordinary instrument will be found to lock either close to, or within the os externum. By an ingenious contrivance, Dr Davis makes his forceps to lock an inch at least beyond, so that no part of the mother can be included in the hinge.

With regard to forceps, we would however observe, that every teacher of midwifery has a favourite instrument, that is to say, an instrument which he can use with more dexterity than any other; and we cannot do better than to quote a passage on this subject from the work before us,—not so much for the purpose of illustrating our opinion, as in proof of the good sense which pervades the work. "I beg to press most urgently upon the reader's attention, a fact which I am afraid has not sufficiently been adverted to, that the hand which wields the instruments of this art, is generally a matter of much more essential consequence to the patient's fate, than the specific forms of the instruments which are usually employed to its purpose." (p. 16.)

Our author has also presented us with forceps consisting of blades of unequal breadth and length, which we have no doubt will be found serviceable in the particular cases described.

The remainder of this Section is occupied with a concise account of the circumstances indicating the use of the forceps. This is a part of the work which we are persuaded will be much esteemed by practical men. Every thing is told in plain unostentatious language, and there is a great deal of information given in a small space. We shall content ourselves with a brief notice on one or two points. With respect to the use of the forceps, in consequence of deficient action of the uterus from general constitutional weakness, we would observe, that this, according to our experience, is an extremely rare occurrence; indeed Dr Davis admits that "they very rarely require the assistance of instruments." Of course we are not alluding to constitutional weakness produced by previous disease, or by hemorrhage, but what other authors term "original weakness of habit of the mother." An opposite, or too plethoric state of the system, is, on the contrary, a much more frequent cause of tedious labours. Many cases illustrative of these facts have occurred to us.

Dr Davis has taken notice of two diseases of the lungs, asthma and emphysema embarrassing the action of the uterus. With respect to asthma, he states, that, "in most of the cases of protracted labour, from this cause, I have seen, the earliest stages of the process were those which appeared to have been principally affected by it, whilst, in almost every instance, the use of the forceps became unnecessary as soon as the orifice of the uterus became sufficiently developed to admit of a safe application." This paragraph surely does not indicate any overweening fondness for the use of instruments, when they can be avoided.

In noticing emphysema, our author states, that he had seen four such cases, and that they all occurred from inordinate excitement of the heart and arteries. "I had no hesitation (says Dr Davis) in recommending very copious bleeding, which, in every instance, afforded the most marked relief." Three of the patients were delivered by the natural efforts, and in the fourth, the forceps were used to improve the position of the head, and then withdrawn. All the children were born alive. The mothers recovered satisfactorily, and the emphysema vanished rapidly without puncturing the integuments.

The Third Section is on the long forceps, with suggestions for certain other modifications of obstetric instruments. It commences with an account of the use and special properties of the long forceps. This is, indeed a dangerous instrument. It is only recommended, however, when the head of the fœtus is not allowed to enter the pelvis from deficiency of space at the brim, the obstacle being so slight, that the least assistance in addition to the *vis à tergo* would bring the head safely through the passages. Under such circumstances, obstetric practitioners require the greatest exercise of patience. In time the head will be frequently moulded to the passages, and the woman will be happily delivered of a living child. It may be urged, that a case may occur in which the brim is deficient, without sufficient uterine action to propel the child forward; but, under such circumstances, turning is an easier and a safer operation.

The only case in which we would have any doubts, is that of a first child, particularly when the external parts were rigid and undilatable. Of two things we are well convinced, that men worthy of belief in extensive practice during a long course of years have never had occasion to use this instrument; and secondly, that gentlemen are frequently found to boast of the successful application of the long forceps, which either could not have been done in the way which they alleged, or, what was worse for their patients, the instrument had been applied unnecessarily. We suppose, they have pulled a little this way, and, finding it not to answer, have pulled it a little that way, the force thus employed having roused the action of the uterus, the pains have forced the child past the obstacle, and the delivery has been thus effected. The deficiency of space at the brim exists, in a great majority of cases, from pubes to sacrum; the part of the child which refuses to pass, is the protuberances of the parietal bones. Now, we have many times heard men talk of a wonderful case, in which the head was *wedged* in the brim of the pelvis, the space being deficient, that they have applied the long forceps, and delivered the child like magic. In such cases, the head is either wedged, or it is not—if it is wedged, then the application of the forceps, in the usual manner, is an impossibility—if it is not wedged, there is no necessity for instrumental aid at all. In many instances, we are persuaded, that the long forceps have been applied over the face and occiput, and the child thus extracted, the operator being all the time ignorant of the relative position of parts, and of the points over which his forceps were applied.

We do not wish to be understood as deprecating the employment of the long forceps in all instances; on the contrary, we admit that there are cases which require its employment; but, we contend, that the range of such cases comes within very narrow limits indeed, and that practitioners in the most populous cities, who are called in to all bad cases, may enjoy the greatest eminence for thirty years, without having occasion to apply the long forceps three times. And further, we agree most cordially with our author, that "the long forceps must be used under these circumstances with extreme caution even in the hands of experienced operators; and, in my opinion, should not be used at all by persons unaccustomed to the more common duties of instrumental midwifery, and not perfectly competent to ascertain the dimension of the brim of the pelvis, as also the actual condition of all the parts and functions of the subjects, more immediately interested in the labour. From the very limited range of its possible utility, in cases of this kind, the long forceps is obviously an obstetric power, not often to be had recourse to, even for the assistance of severe labours; and one, indeed, much more frequently to be cautiously tried as a preliminary measure, and a possible preventive of other and more desperate expedients than to be ranked among the ordinary resources of our art." (p. 233).

The knowledge of many facts similar to those related above, led Dr Davis to contrive a pair of long forceps, of a different construction, which he now submits "to the approbation and cautious trials of the profession." There are delineations of the instrument in plates 10, 11, and 12. This instrument may be shortly described as possessing two blades of unequal length, the short one to be applied over the occiput; the long blade over the face. In the latter, about an inch and three quarters from the point of the blade, there is a joint capable of being bent to a greater or less extent. This hinge or joint is worked by a button at the handle extremity. As soon as the blade is properly applied, the jointed part is bent over the chin by pushing the button. The part of the instrument which comes in contact with the features is concave and well padded. In truth, the mechanism of this blade resembles exactly an instrument which, we think, was improperly discarded from practice—*Aitkin's Living Lever.*

Our author, after giving an excellent description of the possitions of the head in cases of arrest at the brim of the pelvis, and the use of the long forceps, under such circumstances, concludes his remarks on this important subject in the following words:—

"Before I take my leave of this part of our subject, I must be permitted to repeat the expression of my firm conviction as to the very limited utility of the long forceps, and, indeed, of any instruments, of whatever name or form, which may be intended to operate on the head of a living child, when arrested at or above the brim of a confined pelvis. At all events, mechanical powers of this kind are never to be had recourse to in cases of confined pelves, but as auxiliaries to the natural agents of labour of very limited efficiency, and to be very rarely, and then most cautiously employed." pp. 244.

We may again remark, that these opinions do not betray, on the part of Dr Davis, any fondness of instrumental assistance.

At page 245, Dr Davis next proceeds to treat of labours under the circumstances of face presentatiens; and we should have passed over this part of the work without comment, were it not that we feel solicitous to impress on the minds of our readers, a truth which has been forced upon ourselves in the course of practice in this department. Face presentations are the most common of all the mal-positions of the head; and, as our author justly observes, "are also unfortunately such as are least capable of being substantially relieved or obviated by the mechanical resources of our art," (p. 245). This practical remark applies to those cases where the head is actually involved in the cavity of the pelvis. Of course, if the face is detected at the brim before the evacuation of the liquor amnii, the position can, without any difficulty, be improved.

"I should be sorry" (continues Dr Davis, p. 247.) "to make any statement which might chance to mislead my younger brethren on a point of so much practical importance as the present; but I do feel it my duty to add, that, as far as the experience of any individual can be supposed to have weight in the decision of a subject on which no man can possess very ample materials for the purposes of inductive reasoning, I am warranted in the belief, that in a positive majority of cases, under the circumstances of the presentation, and the several positions here supposed, nature might be relied upon for being eventually competent to accomplish her own work, compatibly with the safety both of the lives and structures interested in the struggle, and, at all events, compatibly with the more important life of the mother."

We have quoted this passage to illustrate the truth to which we have before alluded, which is, that in by far the greatest number of these mal-presentations, it will be found that the pelvis is unusually large, or that the fœtus is much below the natural size. We could quote many cases in proof (if it were allowable in an article like the present), which have occurred in our own practice. If it were not so, how could Smellie have succeeded, in such cases, in turning round the face into the hollow of the sacrum by counter-pressure with the fingers. Dr John Clarke assures us, that he succeeded in thirteen out of fourteen cases, even after the head was considerably advanced. Mr Burns says, that he also has readily succeeded in turning the face round into the hollow of the sacrum by the same practice, even when the nose was in a line with the arch of the pubes. And Dr Merriman (for whose opinions we entertain great respect) has twice known presentation of the face converted by the pains alone, into natural cases. Such changes of presentation could not be so readily affected, were it not that, in cases of mal-presentation of the head, the pelvis is unusually large, or the fœtus much below the natural dimensions. When the fœtus is full grown, and situated with the head in this position, we consider it next to an impossibility (without doing an injury by the force employed, to the soft parts of the mother) to effect such an evolution as described by the above named authors; and Dr Davis assures us, that such cases "are least capable of being substantially relieved or obviated by the mechanical resources of our art."

With reference to face presentations, we would only further remark, that we have never seen the chin turned toward the sacrum, nor do we believe in the possibility of such an occurrence, unless in cases of abortion or premature labour, when the size of the child makes it a matter of indifference which way it turns.

We cannot help expressing our surprise at the frequent use of the forceps abroad, particularly as we happen to know from experience, that women on the Continent are as well shapen in the pelvic region as our own countrywomen;

we would be inclined to say they are more capacious. It has been long known that the shape and size, and state of the ossification of the heads of different nations vary very much. Can the difference of practice be explained upon such grounds? Dr Davis has introduced a comparative statement of the average number of forceps cases in Germany, France, Great Britain, and Ireland, which cannot fail to be interesting to our readers. Some individuals in Germany, according to Professor Böer of Vienna, employ the forceps, in nearly one out of every three labours. Professor Hagen of Berlin, delivered one in nine in the same manner. Professor Nägeli of Heidelberg applied the forceps once in fifty-three cases. In Baudeloque's Hospital practice the forceps appears to have been employed once in 353 cases. Between the years 1797 and 1812, Madame Boivin makes it appear that in the practice of *L'Hospice de la Maternité*, amounting to 20,357 labours, the number of forceps cases was as 1 in 212. In another hospital in Paris, the proportions were as 1 to 166. In the School of Midwifery at Vienna, under Professor Böer's able direction, we are assured, the forceps was applied, on an average, once in 238 labours. It would appear that the celebrated Dr Joseph Clark applied the forceps only once in about 742 cases which occurred in the Dublin Lying-in Hospital, between the years 1787 and 1793, during which period 10,387 deliveries took place.

"Upon the whole, therefore, (says Dr Davis), I am much inclined to the opinion, that it cannot be absolutely necessary to have recourse to the use of the forceps or the lever more frequently than once in three hundred, or, at most in two hundred and fifty cases, in order to ensure for puerperal women the greatest possible advantages attainable from the employment of these obstetric powers." p. 259.

From the occurences in our own practice, we are free to state, that forceps is not required in practice more frequently than once in from 300 to 500 labours. We are persuaded that the forceps is often employed in cases of hæmorrage during labour, which could have been successfully managed if the membranes had been ruptured early before the patient lost any great quantity of blood, and we fear that this instrument is still oftener used in ordinary cases, to save the time of the practitioner. It would be interesting if we were to be informed how many cases of laceration of internal and external parts owe their existence to the unncessary use of the forceps. A writer on midwifery once made a sensible remark, that "the grave tells no tales," and women and their relations have a natural reluctance to proclaim such misfortunes.

In a work lately published by Madame La Chapelle, it appears, that in one of the principal Lying-in Hospitals in Paris, 9 out of 90 forceps cases proved fatal to the mother. This appears to us to be an unaccountable proportion of deaths, and Dr Davis assures us, that in his own practice, as one of the physicians to the Maternity Charity of London, "I have the satisfaction," says he, "of being able to assert, that I have never incurred the misfortune of losing a mother, in consequence of a forceps operation." p. 274.

Section 4th contains an account of the operation for inducing premature labour, as well as that of dividing the symphysis of the pubis, which has been dominated the Sigaultian operation. But upon these points we do not intend to dwell.

The 5th Section contains an account of those operations only which are employed to ensure the preservation of the more important life of the mother, the diminished capacity of the pelvis being such as to prevent the child being brought through the passages, by any other means than by perforating the child's head.

After describing the means by which the head is to be perforated, and the method of doing it, our author proceeds to describe the extracting instruments which he has invented for completing the delivery. This is a part of the work for which we are persuaded the members of the profession will have reason to feel grateful to Dr Davis, because he has put instruments into their hands, not only simple in their construction and easy in application, but perfectly safe in their operation.

The crotchet is the first instrument we shall notice. The common instrument now in use which bears that name, we can liken unto nothing but a crooked pot-hook, which is applied to some part within the cranium after that cavity has been perforated, and the operator pulls the child through the passages as he best can. We can speak from actual experience of the difficulty of fixing this instrument so that it will not slip. It is evident, if it does slip when much extracting force is applied, that dreadful injury must frequently be inflicted on the soft parts of the mother. The late Mr John Bell had the pelvis of a woman who died from the effects of a laceration produced by this instrument; the hook caught the soft parts at the brim of the pelvis, and tore them to the os externum. This pelvis is now in a private collection in Edinburgh.

"The instrument exhibited in Plate XIII. Fig. 1, 2, 3, 4, is accordingly a specimen of a guarded crotchet, intended to transfix the scalp and skull from without. The crotchet part of the instrument is represented in fig. 3. The hook is divided into three prongs, which are intended to enter the head at a little distance from each other, in order to avoid as much as possible any unnecessary laceration of the cranial integuments. This branch of the instrument is to be passed up exactly in the same way as the common crotchet, when applied to the outside of the head, to be guided along the palm and directing fingers of the right or the left hand, according to the intended locality of its destination; and to be applied to the precise point of the head which it is meant to penetrate. The guard part fig. 4. is then to be introduced into the vagina, and through the aperture made in the head by the scissors or perforator, passed high up into the cavity of the skull. The two counterparts of the instrument must then be carefully adjusted at the lock. Upon firmly pressing the handles together for this purpose, the crotchet prongs or teeth will enter the fœtal scalp; and upon the application of moderate traction, they will enter deeply into the substance of the skull. The handles should then be secured by a tape, or not, at the discretion of the practitioner; it not being so indispensable a precaution in using this instrument as in the case of the craniotomy forceps. The first figure in the plate represents a portion of the fœtal head removed, for the purpose of shewing the mode of purchase of the instrument. The crotchet branch is seen to have passed up posteriorly, on the outside of the head, and to have penetrated the skull at a little distance behind the ear. The guard part of the instrument is seen to have passed up through the aperture made by the scissors into the cavity of the skull. The position of the head may be supposed to be that of the forehead, and face to the front of the pelvis, but inclining towards the left acetabulum. By the ring aperture in the blade of the guard portion of the instrument, or rather by the relative position of that part of it which forms the ring to the teeth or prongs of the crotchet, the reader will easily see how these teeth must be perfectly protected. Their points being altogether under the level of the guard, it is evident that they cannot by possibility come in contact with a single fibre of the maternal organs. From the considerable extent of purchase possessed by the corresponding forceps surfaces of the shanks of the instrument, which in fig. 3 and 4 are represented as being strongly ribbed or fluted for the purpose, sudden lacerations of the fœtal scalp, and extensive fractures of the bones of the skull, are in a great measure avoided. The power of the instrument is such, that it cannot fail to act, during every stage of its use, in perfect conformity with the intention of the operator, and according to the degree and direction of the force which he finds it necessary to apply to it. Whilst speaking of the power of this piece of mechanism, I may indeed observe, that some of my friends have considered it as unnecessarily bulky. My answer has always been, that strength of the instrument is no farther an objection to it than can arise from its weight. Its precise weight, however, is one pound and five ounces avoirdupois. The object of so much power is, to provide against the possibility of any accidents which otherwise might arise from the easy bending, or the mere action of the elasticity of either of its branches, which, by the loss of the mutual parallelism subsisting between the crotchet and its guard, would expose the patient to all the risk incident to the use of the common unguarded crotchet. Surgeons' instrument-makers are generally in the habit of making embryotomy instruments much too slight; under the impression, I presume, that they are more handy and portable, and less liable to the charge of clumsiness: whereas the first principles of extracting instruments with sharp hooks or teeth should be an inflexible firmness of purchase. With an instrument of this kind, it is obvious that a practitioner may use much more power in a given time, and compatible with the most perfect safety, than he can with any sort of hooked instrument without a guard; inasmuch as he may not only apply more attracting force in the abstract, but vary to a considerable extent the amount and direction of his force; by which he will often very greatly reduce both the difficulty and danger of the operation." pp. 291—293.

This valuable instrument can scarcely ever slip, but should it do so twenty times, no injury can result to the soft parts within the pelvis.

Dr Davis has also contrived body crotchets upon exactly the same principles, but we conceive that the one for the head may be used equally well for any other part of the child.

We do not intend to notice Dr Davis's craniotomy forceps; they have been before the profession for several years, and are very generally used. All these contrivances are made upon the principle of the forceps, having two blades, and are therefore simple in themselves and easy of application.

With the means hitherto in their power, obstetric practitioners have not been able to reduce the head of the child so much as to bring it through a deformed pelvis, whose dimensions in the antero-posterior diameter was any thing under two inches, without the certainty of injuring the mother so much as to destroy her life, or to render her a loathsome object. Dr Davis has accomplished this by an instrument which will enable us to chip away with certainty and safety the bones composing the very base of the cranium.

'As far as I know, it is an example of a new application of mechanical power, combining the principles of a punch and a pair of scissors. The whole instrument is made of solid and well tempered steel. Its cutting ends are worked into two long and fenestrated oval rims of unequal size, but of nearly equal strength. The smaller is of a size to enter into, and to fit closely within the parieties of the larger. The mutually adapted parts of each being formed into a continuous oval edge, they become competent when brought together, and firmly applied to their object, to exert a prodigious power upon a portion of bone placed within their grasp. The handles are of great length in proportion to the parts anterior to the joint; and being of sufficient strength to be perfectly inelastic and inflexible, their power must be deemed equal to the full length of their leverage, multiplied by the muscular force employed in using them.

"I have often out of curiosity, and to show the extraordinary power of this instrument to my pupils, made large breaches into strong ribs of beef, by cutting out of them a succession of pieces, in the manner represented in plate 18th, fig. 1st, which indeed is given to illustrate the use of the osteotomist in its application to the fœtal cranium. Having a power like this in reserve, it is evident that the employment of any inordinate force of attraction with the crotchet may, almost in all cases whatever, be happily and certainly avoided. One or two sections taken out by the osteotomist from the basis of the skull, which is by far the most bulky part of the fœtal cranium, will generally have the effect of putting an end to all difficulty. In cases of greater confinement, a few additional sections will, perhaps, be required to be made, in order to give a sufficient degree of facility to the after part of the operation." (pp. 305–6.)

We would recommend our ingenious author to add a good spring to play between the handles. We had a spring made to one of Dr Davis's osteotomists, and find that it not only gives the instrument additional power, but causes it to open of itself, which we find to be great improvements.

The length to which this article has extended, prevents our taking notice of other useful powers which Dr Davis's ingenuity has contrived. And we also regret that we are under the necessity of passing over much excellent matter without observation. We hope, however, that we have said enough to induce practitioners of midwifery to study the principles inculcated, and mechanical powers recommended in this work. Dr Davis has proved his great mechanical skill; let us hope that his good sense will prevent him from running into an extreme, which is the only point which threatens danger to the reputation which he must acquire by this publication.

The advantage to students of being taught the mechanical part of the art is undoubtedly great, if only one case in a hundred, or even one in a thousand required assistance. Too much time, we conceive, is employed by students in attending common midwifery cases. Nature is the same in almost all of these, and when a real difficulty actually occurs, their teachers very properly operate themselves. The operation ought to be done under the clothes, the room dark. Let us ask what advantage can any spectator derive under such circumstances; and God help the poor woman if the teachers put the instruments into the students hands.

In operative midwifery, the accouchers have to depend upon one sense alone, that of touch; they have no assistance from their eyes; the difficulty of the case, too, is increased by the obstacle, which has to be overcome, being at a distance.

It is a great point gained, when students are taught how to discover relative position; and next to this in importance is the method of applying instruments. When an individual acquires such knowledge, he has then only to reflect upon the mechanism of natural labour, and allow his head to direct his hands.

Dr Davis complains that midwifery is undervalued as a study in the schools of London, that gentlemen go forth to practice this branch without previous study. Many causes tend to produce this effect. Owing to the absurd laws of the College of Physicians of London, the practice of midwifery, and therefore its study, is unjustly degraded; and we grieve to see attempts made at the present day, in the formation of a society to exclude any one branch of the healing art, from a participation in its public labours and usefulness. The laws of the College of Surgeons of London have the same tendency. At page 276 of the work before us, Dr Davis, after giving the history of a shocking case of mismanagement which terminated fatally, makes the following remarks.

"Gentlemen of the Royal College of Surgeons, are you not well aware that nine out of ten of your entire body are engaged in the daily practice of midwifery, and yet without apparent compunction, you suffer your members, under the sanction INDIRECTLY OF YOUR ROYAL DIPLOMA, as in the melancholy case here recorded, to engage in the most responsible duties of this art, without requiring even the shadow of a proof of qualification for them?"

All these inconveniences, we are persuaded, will be remedied during the next century, but those who practise midwifery, as well as those who teach and write on subjects connected with the obstetric art, must commence the work of reform by laying aside the mysteries in which many of these at present indulge. When they notice the use of instruments, let them speak, as Dr Davis has done, of mechanical, and not of obstetric principles. When they are attempting to cure wounds and lacerations made on the bodies of unhappy mothers, or their luckless offspring, let them do so on common surgical, and not on what they mysteriously and falsely term obstetric principles. And when they are intrusted with the case of a child labouring under measles, let the said child's cure be conducted upon good pathological, and not on what they foolishly term obstetric, principles.

There never was a greater error committed by obstetric practitioners, than the attempts which have been made to produce an impression, that there is an essential difference in the nature and seat of a disorder when a woman is pregnant, and when she is not; and still greater mischief has been done by attempting to separate the study of the diseases of children from those of adults.

These observations lead us to remark, that the study of midwifery has not been neglected by the students at the Edinburgh school. A competent knowledge of the theory and practice of this art is required by the Examiners of the Royal College of Surgeons of Edinburgh, and those who commence their studies after 1824, and wish to graduate at Edinburgh, must produce testimonials of having paid due attention to midwifery.

V.

Medical Researches on the Effects of Iodine in Bronchocele, Paralysis, Chorea, Scrofula, Fistula Lachrymalis, Deafness, Dysphagia, White Swelling, and Distortions of the Spine. By ALEXANDER MANSON, M. D., Physician to the General Hospital, and St Mary's Hospital and Dispensary, Nottingham. London, Longman & Co. 1825.

WE have perused this volume with satisfaction. It contains a considerable number of clinical observations, detailed with great minuteness, in simple and perspicuous language.

In our twenty-second volume, p. 210, we have given a pretty full history of iodine, its preparations, and its effects as observed by the Continental practitioners, who first employed it; and although many physicians in this country, besides ourselves, have occasionally prescribed it, so far as we know, Dr Manson has made the most extensive researches into its effects in a variety of diseases. In his Preface he tells us, that since March 1821, he had prescribed 180 ounces of this very active drug. He therefore writes from multiplied experience.

Bronchocele, the disease against which it was first employed, is endemic in Nottingham; and Dr Manson is inclined to adopt the vulgar opinion, that it is owing to the hardness of the waters used by many of the inhabitants; and he quotes a very remarkable fact observed by Dr Richardson, in his Journey to the Shore of the Polar Seas, from Captain Franklin's interesting narrative of that arduous expedition.

" ' Bronchocele, or goitre, is a common disorder at Edmonston. I examined several of the individuals afflicted with it, and endeavoured to obtain every information on the subject from the most authentic sources. '

" ' The following facts may be depended upon: The disorder attacks those only who drink from the *water* of the *river*. It is indeed in its worst state, confined almost entirely to the half-breed women and children, who reside constantly at the fort, and make use of river water, drawn in winter, through a hole made in the ice. The men, from being often from home on journeys through the plain, when their drink is *melted snow*, are less affected; and if any of them exhibit, during the winter, some incipient symptoms of the complaint, the annual summer voyage to the sea-coast generally effects a cure. The natives, who confine themselves to *snow water* in the winter, and drink of the small rivulets which flow through the plains in the summer, are exempt from the attacks of this disease. '

" ' A residence of a single year at Edmonston, is sufficient to render a family bronchocelous. Many of the goitres acquire great size. Burnt sponge has been tried and found to remove the disease; but an exposure to the same cause immediately produces it. ' " pp. 7, 8.

Dr Manson having experienced the efficacy of burnt sponge in this singular malady, was employed in a course of experiments to discover whether its virtue depended upon the subcarbonate of soda, when he became acquainted with Dr Coindet's discovery of the specific properties of iodine; and he lost no time in taking advantage of it.

In an Appendix he has given the various forms in which he used iodine; and we have inserted them here, as they may be occasionally referred to in the course of this article.

" *Tinctura Iodini.*—℞ Iodini ʒi. Spiritûs Rectificati sp. gr. 0.916 ℥iiss. Solve, terendo in vase vitreo.

Liquor Iodini.—℞ Potassæ Hydriodatis gr. xxxvi. Iodini gr. x. Aquæ Distillatæ ʒx. Solve, terendo in vase vitreo.

Solutio Iodini.—℞ Potassæ Hydriodatis gr. xxiv. Aquæ Distillatæ ℥i. Solve, terendo in vase vitreo.

Linimentum Iodini.—℞ Linimenti Saponis Comp. ℥i. Tincturæ Iodini ʒi. Misce.

Unguentum Iodini.—℞ Potassæ Hydriodatis ʒss. Adipis Præparatæ ℥i. Misce. " pp. 451, 452.

Dr Manson found, that the rectified spirit he employed was insufficient to dissolve the proportions of iodine directed by Dr Coindet. We have already pointed out (Vol. xxii. p. 216.) one cause of this, in the difference of the weights and measures used in Geneva and in this country. Dr Coindet's tincture contains $\frac{1}{12}$, not $\frac{1}{16}$ of iodine. Dr Manson's tincture contains about $\frac{1}{17.3}$ by calculation, paying due attention to the specific gravity of his spirit; and we think there is an advantage of using a weaker tincture, as, when fully saturated, a deposite of iodine takes place, on the evaporation of a portion of the alcohol. The titles of some of the other preparations are not well chosen. The *liquor iodini* is a solution of the *iodurretted* hydriodate of potass; his *solutio iodini* is a solution of hydriodate of potass. In regard to the liniment, Dr Manson remarks, it is a very convenient form for exhibiting iodine externally, and it has the advantage of allowing the preparations to be kept in a phial, thereby preventing the evaporation of the iodine which takes place when the tincture of iodine is mixed with hogs-lard to form an ointment. In some persons, the skin is apt to become tender from its use, and desquamation of the cuticle takes place. The frequency of its application must, therefore, be regulated according to what the skin will bear in different individuals. The colour of the anodyne liniment, he says, is destroyed by the anodyne. We did not however find the observation verified, probably owing to a difference in the anodyne liniment.

The first section of the work contains the cases of bronchocele in which Dr M. administered iodine. They amount to 120, being 15 males and 105 females; and the general result is quite conclusive as to the remedial powers of iodine in this malady. Of these cases, 15 are detailed at length, and the others are stated in a tabular form, with short notes pointing out any peculiarity in the course of them; a mode of writing which condenses much information in a very narrow compass. It is only some of those peculiarities we are disposed to quote. When the bronchocele was complicated with swollen conglobate glands, the thyroid gland first yielded, and then the lymphatic. In the fourth case, a scrophulous swelling of the foot yielded during the use of the iodine. The fifth case we shall quote as an example of a rapid cure.

"Mr N. jun. æt. 22, —— Nottingham. 24th June, 1821. Is a brother of the patient whose case has been last detailed. For four or five years has laboured under bronchocele of very considerable magnitude, but *much softer* than any of the size I ever handled. He thinks that the pressure of the tumour on the trachea affects his breathing. Is naturally very weak, and not in good health, having lately been too much confined to the desk. His mother laboured under bronchocele, and about a year ago died of distinctly marked phthisis pulmonalis. Bowels inclined to be tardy.

"Capiat Pil. Cambogiæ Comp. gr. v. vel. x. omni nocte h. s.

"℞ Tæ. Iodini ℥ss. Sumat gutt. xx. ter in die ex aquæ cyatho vinario.

" July 3. The bronchocele is nearly dissipated, the skin loose and flaccid. Has got a bad cold, and expectorates a great deal of mucus. P. 100. The iodine was discontinued, being no longer necessary. And the catarrhal complaint was cured in about ten days. Cured." pp. 26, 27.

In the eighth case, xv. drops three times a day, made the patient feel as if she were tipsy for some time after taking them, and afterwards sleepy all day, with some degree of sickness at stomach. We have observed great exhilaration from its use; but the patient, affected without scrofulous conglobate glands, was doubtful whether his high spirits did not rather proceed from his delight at the rapid improvement of his health.

The thirteenth case, that of a girl of 16, who had never menstruated, gives occasion for the following remarks.

" This patient was cured of the bronchocele without any effect being produced on the uterine system, over which Dr Coindet thinks the iodine has a *specific* influence. The above case, and many others which I have treated, have not given me any reason to suppose that iodine does possess any specific powers as an emmenagogue, further than as a stimulant and tonic to the whole body, in which the uterine system must of course participate. This *patient* began to *menstruate* about six weeks after she was cured of the bronchocele. The tonic effects of this medicine, as well as of others, depend upon their judicious exhibition. In a case that came under my care, which will be noticed in its proper place, the tincture of iodine occasioned so much sickness and disorder of the stomach, that the menstrual discharge was suppressed altogether, which never had happened to the patient before, except during pregnancy and lactation." pp. 42, 43.

No. 18, a girl of 17, swallowed by mistake nearly an ounce of Dr Manson's tincture undiluted. It was immediately rejected by vomiting, and no inconvenience or bad effects ensued.

No. 62 experienced ptyalism during the use of the iodine.

" In *some individuals,* after the preparations of iodine have been given internally for some time, they are apt to occasion headach, giddiness, sickness at stomach, with some degree of nausea, languor, and inaptitude for exertion; when these unpleasant sensations and effects occur, the best plan to remove or obviate them is, to suspend for a time, the use of the medicine, or to reduce the dose, as may seem most expedient. A reduction of dose, from fifteen to twelve drops, was the plan adopted by me on this occasion. The patient afterwards went on to the completion of the cure, without any uncomfortable sensations." p. 65.

" As I should be considered tedious by offering more remarks on individual cases Bronchocele, I may now generally observe, that in the other cases, so far as I had an opportunity afforded me of following up the treatment by the internal exhibition of Iodine, they all went on favourably, without any particular *unpleasant effect* from the medicine, and without any *injury* to the *constitution*. On the contrary, the tincture of Iodine, and other preparations of it, employed by myself, had generally a cordial and tonic effect, unless given in too great a dose; and the patients to whom it was exhibited, with the exception of the persons mentioned in the remarks, generally found themselves in better health and spirits than they had previously been for years. This observation applies, not only to those who laboured under Bronchocele, but also, as will appear from the sequel, to those who laboured under other diseases, in which Iodine was exhibited." p. 66.

The abstract of the whole is, that 120 cases were treated, 15 males and 105 females; and of these 87 were cured, 10 much relieved, and only 2 or 3 discharged without relief.

From the great success of iodine in reducing morbid enlargements of the thyroid gland, Dr Manson was led by analogy to think that it might prove an useful remedy in cases of palsy, arising from tumours, or fluids pressing upon the brain or spinal cord, and even from thickening of the investing membrane of the cord itself; and the results of his trials are certainly interesting. The first case of paraplegy is so singular, that we must quote it with little abridgment.

"James Watterton, æt. 19. Was admitted an in-patient of the General Hospital, near Nottingham, on the 27th of March, 1821. Has been ailing since October, 1819. Says that he was first attacked with pain in the bowels, and griping. After some time the pain left the bowels, and the lower extremities became swelled and painful. His mother put his feet and legs in warm water, and after this, his neck became stiff and painful, and he soon began to be troubled with pains shooting from the neck into the left side of the head (this took place he thinks about nine months ago); after the pain had continued for three months, it left him, and has not since returned. Almost immediately on the pain leaving him he lost the power of moving the left arm, and in a short time after the lower extremity of the same side became paralytic. Some time after this, he recovered the use of the left arm in a considerable degree, the lower extremity of the same side remaining paralytic, and the right half of the body, as high as the neck, was seized instantaneously with complete palsy. He has continued ever since in this wretched state, and has been getting worse, he thinks, instead of better, and passes his stools and urine involuntarily. Is pale, and of a slender spare habit. He lies in bed on his back, and is completely palsied on both sides, from the neck downwards, with the exception of the left upper extremity, over which he still has so much power as to be able to raise his hand as high as his chin, but he cannot grasp any thing with that hand. The sense of feeling is very much impaired, but not quite obliterated in the paralytic parts. There is no distortion of the face, and the patient can articulate very well. Is troubled with twitchings in the lower extremities.

" March 28. Complains of headach. Bowels not moved for two days. Sumat Mist. Purgantis ℥iiss quamprimum.

" March 29. Remains quite helpless. Bowels moved yesterday by the purging mixture, feels better since, and has had a good night. Skin cool. Pulse small and weak. Bowels open. Capiat Mist. Purg. ℥iss. cras primo mane. Applicetur Emp. Lyttæ parti cervicis posteriori, h. s.

" April 2. Blister acted pretty well: for three days the blistered part has been dressed with an ointment having a proportion of blistering plaster mixed with it, and the discharge is copious. Thinks he has rather more command over the left arm, but the other limbs are not better in any degree. Appetite moderate. It appears that the patient had a bloody purulent discharge from both ears, about two years ago, unattended with pain; the left ear continues to discharge a purulent looking matter; the right has not discharged any thing for some time. Contr. Mist. Purgans.

" April 4. Continues nearly in the same state. The incontinence of urine has existed, without any improvement, since both the lower extremities became paralytic. Bowels are kept regular by the purging mixture. Pulse 84, and soft. Skin cool.

" Repetatur Mistura Purgans pro re nata Habeat *Tincturæ Iodini* gutt. x. ter in die ex cyatho vinario aquæ." pp. 76—79.

On the 6th the dose was raised to 15 drops; on the 9th to 20. The following report was given on the 14th.

" April 14. Continues to improve. On the night of the 10th instant, began to have a considerable degree of pain in the toes of the left foot, shooting towards the heel. The left lower extremity is often spasmodically drawn up towards the body, and the foot is now so exquisitely sensible, that the friction of the toes against the bed clothes is quite insupportable; so that I find him with the foot, and part of the leg, quite uncovered. The pain has broken his rest during the night, since the 10th instant. Can now raise the left hand above his head, and move it about in all directions. Has not made the same degree of improvement on the right side of the body. Takes the purging mixture every second day. Pulse 84, and rather firmer.

" Sumat Mist. Purgantis, ℥iss. alternis matutinis. Capiat. Tæ. Iodini gutt. xxv. ter in die." p. 80.

We pass on to—

" June 9. Can walk without a stick, or any one to prevent him from falling. He is gradually recovering the power of motion, and sense of feeling. Drops agree. Appetite good, and is now allowed full diet. A few days ago, I first observed a considerable degree of fulness in the upper and left side of the neck: the part sometimes aches for the space of a minute. Pulse 72, and soft.

" Continuentur Mist. Purg. et Tinct. Iodini.

"June 13. Wrote his name with a pencil on the 11th instant, Had the misfortune to fall yesterday and hurt the right arm so much, that he cannot raise his hand to his head, on account of pain. Some headach last night, after the fall. Bowels open by the mixture. To use a sling to support the arm.

"Continuentur remedia. Applicentur hirudines tres partibus dolentibus." p. 86.

The last detailed report is,—

"July 2. Is gradually recovering flesh and strength. Has the complete use of all his limbs, and the sense of feeling is as perfect as ever. Can walk without a stick, but generally uses one. His right shoulder is nearly recovered from the effects of the contusion. Has written his name with pen and ink this morning, the paper is attached to the cover of the journal kept at the Hospital. There is still a little fulness, and at times aching in the left side of the neck. The left ear continues to discharge a serous fluid with whitish flakes in it; but it is free from any offensive smell. Bowels regular for the last week, without the use of Purging Medicine. Tongue clean. The speck has nearly disappeared, and he now can see better with the left eye than for the last eight years. He complains chiefly of weakness.

"July 3. Discharged cured." p. 88.

"I think it necessary to remark, that after taking thirty drops of Tincture of Iodine thrice a day, for five days, he was attacked with headach, and his pulse rose to 96 beats in a minute. The Iodine was omitted—the headach went off, and in a few days he was ordered thirty drops of the Tincture of Iodine as before, to ascertain whether the headache, and other febrile symptoms, were occasioned by the Iodine, or owing to some other cause. In three days, after resuming the use of the Iodine, the headach was as severe as ever, and the pulse up at 100. I was now convinced that the dose of Iodine was too large, and after omitting it for two days, I ordered 15 drops three times a day, and gradually increased the number of drops, so that they did not afterwards disagree with the patient." p. 89.

Dr Manson is of opinion, and we agree with him, that the paraplegy in this case probably arose from scrofulous inflammation, tumefaction, and perhaps effusion, by which the spinal cord in the neck was so compressed as to render the parts below paralytic. The result of the case is certainly so unusual, as to warrant us in believing that the remedy was the means by which it was produced. In other four cases of the same intractable malady, two were benefited and one died.

There are eleven cases of hemiplegic palsy, six of partial palsy, and one from lead, in which iodine was used with variable success. We quote the first, as proving the singular powers of iodine over some forms of this disease.

" John Scothern, æt. 56, a labourer, is a remarkably strong made man, five feet ten inches high, formerly a soldier in the 30th regiment of foot. Admitted an Out-patient of the General Hospital, the 8th of May, 1821. When in the army, about eighteen years ago, had one or two paralytic strokes, which deprived him of the use of the right half of the body, and he was afterwards discharged, from the Royal Hospital, at Kilmainham, as unserviceable.—He informs me, that he long remained in a helpless state, but after the lapse of several years, he recovered so much power in the paralytic side, as to do a little work ,as a labourer, ever since. He first applied to me as a pauper patient, the 18th of April, 1821, and I prescribed for him ; but not being able to purchase the Tincture of Iodine, he got recommended as an Out-patient of the General Hospital. He complains of a great weakness in the whole of the right side of the body, and particularly in the right arm and hand, and the right knee. The right hand shakes very much. The sense of feeling is also very imperfect in the right side. He is much troubled with pain in the occiput and down the back. Swallows and articulates with difficulty, and says that his memory is very bad, and also his hearing. Bowels generally costive, and makes urine with difficulty. Pulse 84.

" Capiat Pil. Cambog. Comp. gr. x. vel. xv. hora somni si tarda est alvus.

" Sumat Tinct. Iodini gutt. xx. ter in die ex aqua.

" May 18. Has less pain in the back part of the head ; walks better, and says his hand does not shake half so much. Pulse 72, and of moderate strength. Bowels are kept open by two pills every night. Has taken no tincture of Iodine for four days, the quantity he was supplied with having been all used.

" Cont. remed.

" May 25. Says he has more feeling in the paralytic parts, and less pain in the the head, and all down the back. Makes water with less difficulty. Bowels generally open by two pills at bed time, but is sometimes also obliged to take two in the morning. Pulse 72, and soft.

" Capiat Tæ. Iodini gutt. xxx. ter in die. Sumat Pilulas, p. r. n.

" June 1. Pain has quite left the head and back. Has more feeling in the paralytic side, and the right hand and arm shake much less; he improves in walking, and he says that his general health is much better.

" Cont. Pilulæ. Capiat Tæ. Iodini gutt. xxx. ter in die.

" June 8. The case continues to proceed favourably. Pulse 64, moderately full, but soft.

" Cont. remed.

" June 22. Continues to recover his health, and his hearing is very much improved. Pulse 62, and as at last report.

" August 3. Feels much better. Hand shakes less. Memory better, and he articulates with facility. Is subject to the night-mare, when he lies on his back. His urine sometimes runs from him when asleep, but not so often as before he began to take the Iodine.

"Cont. remed.

"Aug. 24. He continues gradually to recover. He complains of pain at the upper part of the loins, and lower part of the back.

"Cont. remed. Appl. Emplast. Thuris Comp. parti dolenti.

"September 14. Says that his right arm feels nearly as strong as the left, but still has a little shake in the right hand and arm. Walks very well. Articulates distinctly, and with facility, and hears nearly as well as ever. Plaster relieved the pain in the loins.

"Cont. remed.

"November 2. The medicines have been continued up to the present time. Except a little shake in the right hand and arm, he has as perfect use of the extremities of the right side of the body as he has of the left. His hearing and memory are both restored, and he can speak as well as ever.

"Discharged cured.

"*Remarks.*—This I consider as a very strong case in favour of the remedial powers of Iodine in palsy. In most of the recent attacks of palsy, there is a certain natural tendency towards improvement at first, which makes it difficult for the most acute and experienced physician to say how much of the cure is owing to the powers of nature, and how much to the remedies employed; but, in the case I have just detailed, it appears the disease was of eighteen years standing; and after he had recovered, in a certain degree, the sense of feeling and power of motion, so as to labour for his support, it is necessary to remark, that he applied to me when he had experienced a relapse, which nearly deprived him of his hearing, power of speech, and memory, and rendered him unable to make any useful exertion with the right side of the body. Under the use of Iodine, not only did he recover the perfect power of speech, the faculty of memory, and the sense of hearing, but he also got the better of the *old* paralytic affection completely (except a slight shake now and then in the right hand), so that he is able to follow the laborious employment of getting in coals, which I have frequently witnessed, with great pleasure, in going my rounds in the town. Under all the circumstances of this case, I think the most sceptical, as to the powers of medicine in the cure of diseases, must allow some share of efficacy to iodine, in this case and also in Watterton's, that had resisted all the remedial means previously employed, but readily yielded to the powers of iodine. I may here observe, that Scothern came to my house about the month of April, 1824, and informed me, that he did not feel very well, and that he was apprehensive that his palsy was going to return, and he wished me to order some of *the medicine* for him, if I approved of his taking it. I accordingly ordered fifteen drops of the tincture of iodine three times a day, and the last time I spoke to him he told me he had taken three half ounces of the tincture, and that he felt perfectly well; and three days ago I saw him walking in the market place of this town, apparently in perfect health. I now proceed to detail other cases, which will confirm what has been advanced as to the remedial powers of iodine in palsy." pp. 103–107.

Dr Manson tried it in 72 cases of chorea, of which 19 only were males, and 53 females, and about one half was cured.

But it is against scrofula that the discovery of the remedial powers of iodine promise to be most generally useful. Dr Coindet and Sir A. Halliday have already made known the benefit they have derived from its employment in this very common and most hurtful disease; but we are glad to confirm their report by the result of the extensive experience of a physician so candid as the author whose work is before us. After detailing some cases which occurred before April 1821, he proceeds,—

"I may, however, briefly observe, that since the date mentioned above, I have treated upwards of eighty cases of scrofula, and scrofulous ophthalmia, by the internal exhibition of iodine, sometimes combined with its external employment in the form of friction; and, in a very large proportion of the cases, when the medicine was persevered in, the disease was either cured, or the general health and local disease very much ameliorated. Several of the patients, after calling upon me two or three times in course of the first month, and finding themselves better, never returned, so that I do not know the final issue of these cases, but from time to time I learn, by accident, that a cure has been accomplished in some of the cases alluded to.

"I beg leave, however, to observe, that any man who expects to cure every case of scrofula, by iodine, or by any other remedy, will find himself very much disappointed, as the external symptoms of struma are very often complicated with tubercles in the lungs, which I fear are beyond the power of iodine, or of any medicine we possess, to dissipate, when once *fully* formed. At the same time I must say, that I am not without hope, that in iodine we possess a remedy that bids fairer than any other to *prevent* the formation of tubercles, or to dissipate them in their *incipient* state. I have had occasion to exhibit iodine to many persons of consumptive families, and I have been watching the result with attention for the last two or three years; but it will require many years, and extensive observation, to come to an accurate conclusion on this highly important subject. But, with respect to the efficacy of iodine in scrofula and scrofulous ophthalmia, I think my experience warrants me in pronouncing it to be, by far, the most powerful and energetic medicine that I have employed in the cure of these diseases." pp. 271, 272.

The concluding sections of this work contain an account of the effects of iodine in fistula lachrymalis, deafness, dysphagia, white swelling, and distortions of the spine. To its use in some of these diseases, he was led by observing its effects on patients to whom it was given for other maladies; and the frequent connection of these with scrofula both explains why it should often prove successful, and is a further corroboration of the powers of iodine over the manifold forms of this general cachexy.

VI.

1. *Ueber die durch den Biss einer Hundes veranlassten Wasserscheu und ihre Behandlung. Von* JOHANN NEP. RUST, *Professor der Chirurgie auf der Universität zu Berlin. Vide Magazin für die gesammten Heilkunde. B. I. S.* 97.

   On Hydrophobia and its Treatment. By Professor RUST.

2. *Darstellung einer zweckmässigen und durch die Erfahrung erprobten Methode zur Verhutung der Wassercheu nach dem Bisse eines tollen Hundes. Von Dr* JOHANN WENDT, *Breslau. p.* 87. 1824.

   Proposal of a Plan of Treatment for the Prevention of Hydrophobia after the Bite of a Mad Dog, confirmed by experience. By Dr J. WENDT. *Breslau,* 1824. *pp.* 87.

3. *Die Hundswuth oder die Wassercheu als Folge des tollen Hundsbisse und das sicherste Vorbauung's Mittel. Von Dr* KARL H. F. LUTHERITZ. *Meissen,* 1825. *S.* 58.

   Canine Madness or Hydrophobia, as the consequence of the Bite of Mad Dogs, and the best means of preventing the occurrence of the Disease. By Dr C. F. LUTHERITZ. *Meissen,* 1825. *pp.* 58.

WE are glad, on the present occasion, to be able to lay before our readers some new and important facts, relative to one of the most distressing diseases with which man can be affected. The prediction of FOTHERGILL as to the discovery of a specific for the treatment of hydrophobia, is indeed not yet accomplished; and the treatment of the disease, when once developed, remains *in statu quo*, but the means for the prevention of the disease are so much improved, that they can, in almost all cases, with the exception only of a few which we shall afterwards mention, be relied on with certainty. The wonderful qualities which are in general ascribed to new remedies, and the insufficient authority on which new plans of treatment are recommended to our notice, require us to be extremely cautious in pronouncing on their merits; but in the present case, the proposed mode of prophylactic treatment consists only in the precise application of means long known, and the conclusions as to its efficacy are not drawn from hasty and superficial observation, but from the extensive experience of a number of respectable individuals. Before we proceed to detail the mode of treatment so successfully tried in Germany and Switzerland, we shall make a few remarks on some of the remedies which have already been recommended for the prevention of hydrophobia, and show the uncertainty with which their action has been hitherto always attended.

Among the remedies recommended for the prevention of hydrophobia, *belladonna* holds a conspicuous place. More than forty years have elapsed since Münch recommended belladonna for this purpose, and since that time it has met with a very extensive trial. A requisite condition for the successful operation of this medicine, was careful washing and scarification of the wound inflicted by the rabid animal. According to Münch, large doses of the belladonna should be given, and Sauter assures us that in an adult he has given eighteen grains *pro dosi*, and Nord gave, within the space of twelve hours, a drachm but without good effect. Brera, formerly physician in Crema, also employed this medicine in very large doses, but not with that success which he was at first led to expect. The opinions as to the efficacy of this remedy were of a very opposite nature, some considering that the disease might not only be prevented, but when once developed could be cured by it, whilst others denied its power in either case; to this last class belongs Hufeland, who had an opportunity of observing its inefficacy in several cases. Among the latest physicians who have strongly recommended this medicine, and who have tried it with good effect, is Massalien in Herrnhut; he has published his observations in the valuable journal of Horn * of Berlin, and therein states, that he never found the Belladonna of service after the complaint had once developed itself, but that in several cases, amounting in the whole to about a hundred, he had tried it immediately after the bite of the animal with the best success. The experience of other physicians did not coincide with that of Massalien, and cases were to be found in every medical journal, showing the uncertain action of Belladonna. Among others we find, in Horn's journal for 1815, (Part II. p. 322), an account of a girl, thirteen years of age, who had been bitten by a mad dog. The wound was treated according to the directions recommended, and Belladonna given internally, but hydrophobia broke out, and destroyed the girl in twenty-four hours. In the year 1820, a case was also observed by Dr Jaenish in Malapaue, where the hydrophobia showed itself on the third day after the accident, notwithstanding that the wound was, from the earliest possible moment, washed and scarified, and large doses of Belladonna were given internally. From a number of such unsuccessful cases observed by different physicians, this medicine was found not to possess the powers ascribed to it by Münch and others.

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* *Horn's Archiv; Vol. II. P. I.*

The employment of *acids* in large doses has also been strongly recommended by several Italian physicians, particularly PREVISATI, AGLIATELLI, ANELLI, NARCISSI, and BRUGNATELLI, whose observations on this subject are to be found partly in the *Giornale di Fisica*, (November and December 1821) edited by CONFIGLIACCHI and BRUGNATELLI, and partly in *Harles's rheinischen Jahrbüchern. Vol. VI. P. I.* The acids employed for the prevention of the hydrophobia, were the oxymuriatic acid, and good wine vinegar; but although tried very extensively, they were not found to possess their reputed virtues. Some time ago several persons died in the hospital at Milan of hydrophobia, who had been treated with chlorine both before and after the appearance of the complaint.

MAROCHETTI's plan of treatment has, within the last three or four years, excited the attention of the whole profession in Europe. This physician observed, in the cases of hydrophobia which came under his notice, small bladders situated beneath the tongue; and, considering these to be a constant appearance in hydrophobia, he directed that they should be cauterized or punctured with a lancet. In HUFELAND's Journal for March 1824, (p. 13), we find the particulars of this treatment detailed. According to MAROCHETTI, the first thing to be done after a person has been bitten by a mad dog, or one supposed to be mad, is to observe the under surface of his tongue twice a day, for six weeks at least after the accident. If, during this time, the small bladders are not to be seen, then the patient may rest assured that the complaint will never develop itself; if, on the contrary, they should be discovered, they must be opened with a lancet and then cauterized. The matter discharged from the bladder consists of a greenish lymph, which the patient must take care to spit out of the mouth. The surgeon should also protect the hand with which he holds the tongue, during the operation, with a handkerchief or towel. The patient must afterwards wash the mouth out with a decoction of broom tops (*genista tinctoria*) of which he must also drink a pint and half a day for six weeks. Since the publication of MAROCHETTI's Observations, medical men in most countries of Europe have directed their attention to the under surface of the tongue in hydrophobia, and have found that the appearance of the bladders is not a constant pathognomic sign. We are aware that, in several cases of hydrophobia, where these observations have been made, it has been stated, they were deferred too long, and not made sufficiently early. This we will not deny; but we also know, that in several cases of hydrophobic patients, where the tongue was most particularly noticed, the bladders were only observed in two persons. Last year, Dr XANTHOS of Siphnus sent a letter to HUFELAND, in which considerable light is thrown on this subject. Dr XANTHOS states, that these bladders (*lysses*) have long been observed in Greece, and are generally seen towards the ninth day. MAROCHETTI and some others conceive, that these small bladders contain a poisonous matter. The opinion of the most learned German physicians is opposed to this; for they think that the bladders which are occasionally observed under the tongue, are the extreme terminations of the sublingual and submaxillary ducts, a theory which appears extremely probable. As to the decoction of broom, experience has long ago proved its inefficacy in the prevention or cure of the hydrophobia.

Quicksilver also holds a distinguished rank as a remedy in hydrophobia. It was recommended towards the end of the seventeenth, and the beginning of the eighteenth centuries by TAURY [*] and by RAVELLY, [†] as a preventive against the canine madness; and, after this, DESAULT [‡] advised the rubbing in of mercurial ointment as the safest possible means of preventing the bad consequences of bites from mad animals. SAUVAGES, JAMES, DU CHOISEL, TISSOT, PORTAL, DARLUC, ROSE, VAN SWIETEN, and several other physicians, have not only strongly recommended it, but have also used it themselves with the best success. In later times, Dr SELIG and KÖNIGSDÖRFER, [§] and, particularly, Professor WALTHER of Bonn,[*] have spoken in favour of the efficacy of quicksilver after the bite of rabid animals. Judging from analogy of the power of this medicine, and considering how beneficially it acts in all inflammatory affections of the air passages, we should expect to find it also useful in this complaint; but, unfortunately, there are too many cases on record, of persons, in whom the external wound has been improperly managed, dying of this complaint, notwithstanding the exhibition of large doses of mercury, to induce us to place much reliance in this remedy alone.

Cantharides have, since the remotest time, been employed both internally and externally, for the cure as well as the prevention of hydrophobia. They were known to the ARAbians[*] as a remedy against the bite of mad dogs. In Hungary[†] they were also used at a very early period; and, in several authors, both old and modern, cantharides are alluded to as a remedy in hydrophobia. Werlhof,[‡] however, is the physician who has brought the cantharides into the greatest notice; and, after him several other physicians, as Wichman,[§] Bucholz,[||] Aepli, Vogel,[¶] have employed this remedy with success. In the large hospital at Vienna, the cantharides are very frequently employed with excellent success; and, it is a striking fact that, during a period of more than 18 years,[**] not a single patient has died of hydrophobia, who had been treated with cantharides prior to the appearance of the complaint. But our readers must recollect that, in this very institution, the external plan of treatment so successfully adopted at Zurich, Breslau and other places, was tried in several cases, together with this remedy. In a few, certainly, Rust assures us, that the wound was not properly treated; but when we recollect, that out of a given number bitten by animals, some will never be attacked by hydrophobia, let the treatment be what it may, it will perhaps not be unfair to place a few of these successful cases among that number which, without the cantharides or any other remedy, would have escaped the complaint. We believe, it cannot be denied, that cantharides is a valuable auxiliary, and that it may have, in a few cases been employed alone with success, but unless the wound be at the same time properly treated, unless suppuration be excited, and kept up for the space of six weeks at least in the bitten part, this remedy will be found equally inefficacious as the others which we have mentioned.

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[*] *Histoire de l'Academie des Sciences*, Ann. 1699, No. 57.

[†] *Histoire de la Societé Royale de Medicine*, 1713, 2 P. p. 137.

[‡] *Dissertation sur la Rage etc. Bordeaux*, 1793, p. 296, 316, *seq.*

[§] *Altenburger Annalen der Heilkunde*, 1812, p. 482, 521.

[‖] *Abhandlungen aus den Gebiete der praktische Medicin. Landshut*, 1810, p. 169, *et seq.*

We now come, lastly, to the mode of prophylactic treatment, with which the English surgeon or physician is perhaps better acquainted than any other, we mean the excision of the wounded part. Several medical men, among whom are Tissot, Nicolai, Bouteille, Metzler, Bell, Loftie, Dupau, John Hunter, Jesse Foot, Callisen, Fothergill, &c. &c., have all spoken of the efficacy of this plan of treatment. Dr Parr, the author of the Medical Dictionary, mentions also in his work, that the excision of the wound is the safest preventive against hydophobia. Rust also in the volume before us relates several cases observed by others, where this treatment was found successful, and one which came under his own notice where the wound was excised *thirty one* days after the accident, and after the hydrophobic symptoms had manifested themselves, and where the patient still was saved. In the *Petersburg Medical Transactions, Vol. I. p.* 170, Dr Harder relates a case, where, five months after the bite, and eight weeks after the excision of the wound, hydrophobia began to show itself, but by another excision and then cauterization of the part the child was saved. Two weeks after this there was observed in the bottom of the wound, a pale and extremely painful excrescence, and the constitutional symptoms returned; but by careful excision and cauterization of the excrescence with the nitrate of silver, a quick and permanent recovery followed. That in several cases excision of the wound alone has been sufficient to prevent the return of hydrophobia all must allow, but on the contrary let any one peruse the medical journals of this country, and see how far more numerous are the cases in which hydrophobia has appeared after this treatment had been adopted.

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[*] *Rhazes*, lib. xx.

[†] *Ephem. Na.t Cur. Dec. I. Ann. I. Obs.* 133.

[‡] *Opera Omnia Pars III. p.* 699.

[§] *Tode's Med. Chir. Bibl.* 7 *Bd. I. St. S.* 236.

[||] *Rahn Gazette de* Sante *I. B. S.* 236.

[¶] *Dissertatio de insigni venenorum quorumdam virtute medica, inprimis cantharidum ad morsum animalium rabidorum præstantia.* Goett. 1762.

[**] *Rust's Magazin Vol. I. p.* 143.

We have thus alluded to a few of the principal remedies which have been recommended for the cure and prevention of hydrophobia; we say a few only, for we believe that Plouquet in his *Literatura Medica Digesta*, enumerates more than a hundred and fifty, but no single one among them has yet been found sufficient of itself in every case to prevent or cure the disease. We will now proceed to lay before our readers an account of the treatment which has been so successfully adopted in Germany, and if subsequent experience should confirm the results which have been hitherto obtained from it, we think that we shall possess as sure a preventive against hydrophobia as we at present do in vaccination against the small pox. The treatment pursued at Zurich and its results, we shall endeavour to insert in another part of this Number. It consists of deep scarifications of the wound, the besmearing of it with *pulvis lyttæ* application of a blister to the part, the keeping up of a discharge from the wound and the blister during six weeks, and the rubbing in of mercurial ointment till symptoms of approaching salivation came on; internally Belladonna or Calomel were given. The account of the treatment introduced by Dr Kruttge in 1797 into the hospital at Breslau, is thus related by Dr Wendt.

"As soon as a patient is brought into the hospital, bitten by a dog or any other animal supposed to be mad, the wounds are washed clean from all coagula of blood, with a sponge[*] dipped in warm water; the edges of the wounds are then to be separated with the fingers from each other, and powdered cantharides are to be sprinkled over the bottom of the wound; into the little *fossæ* produced by the teeth of the animal, the powder is always to be pressed down over the wound; a blister is applied of such a size that it may extend at least half an inch in every direction beyond the edges of the wound. Then the patient is ordered calomel, in doses according to his age and constitution, every three hours, and the medicine is also continued during the night-time. Besides this, the patient rubs in mornings and evenings, from a scruple to half a drachm of mercurial ointment, first over the wound when it is situated in a convenient place, and then on the different extremities one after another.

"If the blister has raised any vesicles, they are snipped, and the cuticle is completely cut away with the scissors; the powdered cantharides is about the same time removed from the wound, and according as the wound is deep or superficial, it is either dressed with fresh cantharides, or only with the *unguentum cantharidum*; with which ointment the wound produced by the blister is also to be kept open. This dressing, which produces great irritation, and soon after a copious suppuration, is modified according to the peculiarity of the patient's constitution, and his greater or less susceptibility; it must be changed twice a day, *and the discharge from the wound or wounds must be kept up during the space of six weeks.* The patient is to continue the use of the calomel and mercurial friction, not only till salivation comes on, but till small mercurial ulcers are to be seen on the tongue and gums, and the person spits a pint of saliva a day. As soon as the patient gets into this state, the rubbing in of the ointment is discontinued, and only sufficient calomel given to keep up a slight salivation till the end of the cure.

"If during the cure it is ascertained that the dog by which the patient was bitten was not mad, and when an official certificate to that effect is sent to the hospital by the *Stadtphysicat*, the further employment of the mercury is discontinued, and the treatment exclusively directed to the external wound, which is then kept in a state of suppuration during thirty days only. If the dog, however, has been killed, as is very often the case, or nothing certain has been learnt of the state of the animal, then the person bitten is treated according to the mode laid down above during the space of six weeks at least; and after the expiration of this time, a little before the wound is quite healed over, an issue[*] of the size of a pea is applied either on the arm or leg, and directed, on the patient leaving the hospital, to be kept open for a year." WENDT, p. 45.

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[*] Dr Wendt states, that the sponge which is used on such occasions is burnt immediately after.

[†] Issues have only made a part of the treatment since 1815, when they were recommended by HUFELAND in the July Number of his journal for that year.

Dr Wendt adds a list of the persons admitted into the Breslau Hospital from the year 1810 to 1824, bitten by dogs. The number of these altogether amounted to 184, of whom half were bitten by dogs absolutely mad, or supposed to be mad. From the whole two only died. The only point to which we object in the above treatment, is the large quantity of mercury exhibited, an error into which the Germans too often fall. The results of the treatment at Zurich show, that the exhibition of this medicine in such large doses is not at all necessary. Rust's mode of prophylactic treatment does not essentially differ from that adopted at Zurich and Breslau. He prefers excision of the wound to scarification, because he thinks that in the latter mode, if a poison really exists in the parts, it will penetrate deeper into the flesh, and be more difficultly destroyed. We are inclined ourselves to give the preference to excision, although experience shows, that, with scarification or excision, the case will generally terminate well, provided the suppuration be kept up the proper length of time. Rust also uses the *potassa fusa*, and the red precipitate, for promoting a discharge, more frequently than the other physicians. Dr Luthoritz differs in a few minor points of treatment from that adopted by Rust and the others; but in the essential point, the keeping up of a suppuration, he entirely agrees.

The treatment we would recommend to be adopted is the excision of the wound, the application of the *potassa fusa*, cantharides, or red precipitate, to excite a discharge; a small blister to the part, and the keeping up a discharge from it and the wound during the space of six weeks at least. Internally calomel should be given till symptoms of salivation show themselves. If, however, the use of mercury is in any way contraindicated, we would recommend the belladonna or cantharides to be given, the first till symptoms of narcosis, the second till those of stranguary are observed; the doses must of course be regulated according to the age and constitution of the patient. If the wounded part should be so situated that the whole of the parts cannot be excised, then we must trust to scarification or the actual cautery. The objection to the actual cautery, in most cases, is the greater degree of pain with which it is attended than the knife, and the slowness with which the slough is thrown off. We must here state, that all those caustics are objectionable in this complaint, from the application of which the slough is so tardily thrown off, and particularly the nitrate of silver. The slough produced by this caustic comes away with difficulty, and the process of suppuration is longer retarded by it than any other caustic. Whatever may be the internal treatment, the external wound must, in order to insure success, be kept in a state of suppuration. We are aware that in some cases this treatment may fail, but we think only in those cases where the wound is so situated that the application cannot be properly employed. A good deal of the success of this treatment must depend on the patients themselves applying before any symptoms of the hydrophobia have occurred. If any, however slight, have manifested themselves, then we fear there is little chance of preventing the full development of the disease. The necessity, therefore, cannot be too strongly impressed upon the minds of the community, of losing no time in applying for medical relief after the bite of a rabid animal; and, on the other hand, the profession cannot be too earnestly entreated to give the treatment which we have recommended a fair and impartial trial. Even if the patient has been bitten by a dog, or any other animal not in a rabid state, we should advise the suppuration of the wound being maintained for three or four weeks, as was done at BRESLAU, since there are several well authenticated cases on record [*] of persons being attacked with hydrophobia who had been bitten by dogs free from all symptoms of madness or any other disease.

We have, in the present article, confined ourselves to the prophylactic mode of treatment, and have omitted saying any thing on the treatment of hydrophobia when once developed, as we are in possession of no new facts by which it has been improved. There is one plan, however, of modern suggestion, to which we will briefly allude, we mean the injection of warm water into the veins, as suggested by MAGENDIE. Without wishing in the least to discourage any attempt to improve the treatment of hydrophobia, we must state our own conviction to be, that we expect little or no benefit will be derived from MAGENDIE'S mode. The injection of warm water into the veins appears to be recommended on the supposition that the dread of water forms a part of the disease commonly called hydrophobia, whereas it is only a secondary affection, a symptom of the diseased state of the different parts about the neck. MEAD relates three cases [†] of rabies canina which came under the care of a physician in SHROPSHIRE, in neither of which hydrophobia or the dread of water was present. The patients died about the usual time, from thirty to forty days after the accident, with symptoms of affections of the chest, palpitation of the heart, spasms, delirium, &c. but neither of them manifested any aversion to water. And MEAD, on account of the dread of water not always existing in this disease, was induced to call the disease DYSCATAPOSIS (difficult swallowing of fluids), instead of Hydrophobia. The dread of water is certainly neither in man attacked with rabies canina, nor in mad dogs of itself a pathognomic sign, but rather a symptom of the affection of the parts about the neck. Mad dogs also, in the majority of cases, have no fear of water whatever. The injection of warm water into the veins has been tried by MAGENDIE and GASPARD in St Etienne, and once or twice in our own country, but in neither case with success. We certainly expect more beneficial results from the injection of narcotics into the veins, as proposed by Dr R. PEARSON, * and practised by Dr BRANDRETH of LIVERPOOL, † although the success even of this mode appears very dubious.

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[*] Rust's Magazin.

[†] Mechanical Account of Poisons, in several Essays, 1747, p. 147 and 151.

VII.

The Surgical Anatomy of the Arteries of the Human Body. Designed for the Use of Students in the Dissecting-Room. By ROBERT HARRISON, A. B. T. C. D., Member of the Royal College of Surgeons in Ireland and London, and one of the Demonstrators of Anatomy in the School of Surgery in Dublin, under the Direction of the Court of Examiners of the Royal College of Surgeons. In two Volumes. Vol. I. pp. 226. 12mo. Dublin, 1824. Vol. II. pp. 215. Dublin, 1825.

OF these small volumes, the plan and execution are equally deserving of praise. The author, who, from his situation as one of the Demonstrators of Anatomy in the School of Surgery in Dublin, was eminently qualified for the task, has, in our opinion, completely attained the object he had in view; and our readers will pardon us if we extract great part of the Preface.

"The description of every artery of importance I have in general prefaced by some observations as to the best mode of performing the dissection, or displaying the relative anatomy of the parts concerned.

"In the description of the individual arteries, I have been particular only in proportion to the practical or physiological importance of each; and in detailing the relations of each vessel, I have first considered its coverings; secondly, the parts it lies upon; thirdly, those which accompany it; fourthly, the branches which it distributes in this course; and lastly, I have endeavoured to direct the

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* Edinburgh Medical Journal, Vol. xvi. p. 158.

† Edinburgh Medical Journal, January 1825, p. 78.

Student's attention to such practical inferences as may be deduced from a review of these several circumstances combined.

"As to the several branches of every large artery, I have described all such as are of importance in a practical point of view, from being concerned in operations, or endangered in accidents, or occasionally of essential service in establishing collateral circulation.

"Although in many of the descriptive parts I have availed myself of the writings of others, yet the reader may be assured that every description has been confirmed by numerous dissections on a great number of bodies.

. "It is not my intention to enter into a very minute or particular account of every small ramification of each artery; several works in the English and other languages contain an enumeration of the smallest branches, and of every variety in their origin and course that has been hitherto observed. These writings have certainly been of infinite service, and must ever be studied with interest and advantage; it appears to me, however, that an acquaintance with the relative anatomy of the principal arteries is more essential to the Surgical Student, than an extended nomenclature of systematic arrangement of the minute and numerous arterial ramifications.

"In the practical remarks that are offered, I have avoided, as much as possible, references to authors or long quotations. This, I trust, will not be construed into disrespect to those who have so largely contributed to the science. In a work intended, as this is, principally for the dissecting-room, I conceive conciseness and brevity to be most important and highly conducive to the Student's progress and convenience, as his attention, instead of being diverted from, will be thus more steadily directed to the subject immediately before him." pp. x–xii.

It is scarcely necessary to analyze the arrangement of the work as it is perfectly natural. The first volume treats of the ascending aorta and its branches, and the second, of the descending aorta and the branches which arise from it.

In his anatomical descriptions Mr Harrison does not confine himself to the vessel itself, its origin, its course and its divisions, but points out the mode of exposing it, so that the student may go along with him and convince himself, and he never omits to point out its relation to the neighbouring organs, a very important study, now called *Relative Anatomy.* The physiological and pathological observations introduced, are valuable, and always arise naturally out of the consideration of the subject. Lastly, the method of tying those vessels upon which that operation is practised, is distinctly related, so as to form an entire body of arterial surgery. The style is simple and perspicuous, as it ought to be in all didactic writings. We have only to prove the truth of our judgment by a quotation, and almost any page would serve our purpose. We select the following, the first that occurs, as interesting to physicians as well as surgeons.

"Before the student traces any of the branches of the aorta, he should pay particular attention to the different relations its arch bears to several surrounding parts, and consider the effects that aneurism of this vessel is likely to produce. He should observe the curve which the aorta makes in this course, how it first advances near to the sternum, and then recedes to the vertebræ; thus the aneurismal tumour may incline forwards, and cause the absorption of the sternum and cartilages of the second and third ribs on the right side, or may press backwards, towards the vertebræ, and produce caries in them; hence pain and partial paralysis in the superior extremities, as in idiopathic disease of the spine. The connexion of the arch of the aorta with the trachea will account for its enlargement producing irritation in that tube, and thus exciting the unceasing cough which so generally attends that disease. He should also remark the close connexion between the artery and the vena innominata, which explains how the lividity of the countenance and varicose condition of the cervical veins may depend on the mechanical pressure of this disease. The student should next dissect the different parts which pass through the arch of the aorta, and observe how its concavity looks downwards and to the left side, bending round the root of the left lung. The right pulmonary artery is the first part that he will find contained within the arch; behind this is the left branch of the trachea, and behind this is part of the left auricle of the heart, posterior to which are the œsophagus, thoracic duct, and recurrent branch of the left pneumogastric nerve. In this situation also is a mass of dark-coloured conglobate glands, called bronchial, which are found more frequently diseased than glands in any other situation; some of these are continued along the ascending branches of the artery to the neck, and are connected by cellular membrane and vessels to the lymphatic glands of that region; the student may very generally observe one or two of these glands buried in the recess between the arch of the aorta and vena cava descendens. These I have frequently found diseased, and can easily conceive how their enlargement or suppuration may produce considerable inconvenience to the surrounding parts; that the returning blood may be impeded in the veins; that the arteries, the air-tube, &c., may be compressed, and thus give rise to a train of complaints, and even apparent symptoms, similar to those of aneurism. These glands frequently increase in size so much, that they rise out of the chest, into the cervical region; they contain a sort of semi-fluid, or soft cheesy matter, that conveys to the touch an imperfect sense of fluctuation; they sometimes appear constricted or indented by the interclavicular ligament, and cervical fascia, which is very tense between the two clavicles. These tumours often have a dull pulsation, communicated to them from the aorta or its large branches; the integuments, too, are sometimes discoloured, and in some instances it requires very careful examination into the history and symptoms, as well as the appearance, to distinguish these from aneurismal tumours of the aorta, or arteria innominata." pp. 8–10.

PART III.

MEDICAL INTELLIGENCE.

DOMESTIC.

Medical Graduations at Edinburgh.

On the 1st of August, the Senatus Academicus of the University of Edinburgh, conferred the degree of Doctor in Medicine on the following Gentlemen, in number one hundred and forty, after having gone through the appointed examinations, and defended publicly their inaugural dissertations. The public examinations were conducted in Dr Hope's Class Room, as being best calculated to accommodate such a numerous body:—

Of Scotland.

Archibald Arnott, . De Scarlatina.
Francis S. Arnott, . — Apoplexia.
Peter Baird, . — Hydropis Origine.
Colin Arrott Browning, — Sanguine Febre mittendo.
Lachlan J. Cameron, — Enteritide.
Andrew Combe, . — Mali Hypochondriaci Sede vera.
Thomas Craigie, . — Organicis Cordis Vitiis.
D. Thomson Dempster, — Pneumonia.
George H. Dickson, — Sanguinis Congestione.
John Forrest, . — Gangræna.
James Fraser, . — Hydrencephalo Acuto.
P. Brodie Henderson, — Erysipelate,
James Jackson, . — Enteritide.
John King, . — Delirio Tremente.
John M'Derment, . — Ascite.
John M'Fadzen, . — Cynanche Tracheali.
William L. Macgregor, — Phrenitide.
Robert D. Maclellan, — Sanguinis Detracti viribus quibusdam in Morbis medendis.
Patrick Macnaughton, — Ictero.
Nicholas Martin, . — Apoplexia Hydrocephalica.
Wm. Graham Maxwell, De Rubeola.
Robert Morrice, . — Jecinoris Inflammatione.
Robert Ramsay, . — Apoplexia Hydrocephalica.
John Robertson, . — Dyspepsia.
Alexander Smith, . — Cynanche Tracheali.
Thomas Smith, . — Morbis Venereis.
Alexander Taylor, . — Febribus Malignis.
George Walker. : — Phthisi Pulmonali.
John Willison, . — Purgantium Hydropicis Utilitate.

From England,

Robert Armstrong, — Febre Bataviæ Endemica.
Edward Ash, . — Vomitu.
Railton Atkinson, . . — Podagra.
John Barr, . — Hæmorrhœa Petechiali.
John Bolton, . — Enteritide.
Michael Atkinson Bush, — Insania.
Thomas Clerke, . — Dentibus et eorum Carie,
William Dermer, . — Synocho.
R. Morris Fawcett, — Punctura quæ in Dissectione occurrit.
John Ferneley, . — Viribus Arsenici salutiferis,

Wm. Henry Foote, De Cholera Indica.
Charles James Fox, — Rheumatismo Acuto.
Thomas Coke Gaulter, — Febre Typho.
Thomas Gouthwaite, — Hepatitide Acuta.
John Grindrod, . — Tetano.
Augustus S. Herbert, — Enteritide.
James Hope, . — Aorta Aneurismete.
Jonah Horner, . — Ætate Muliebri.
Henry P. Hulme, — Electricitatis et Galvanismi in Re Medica Usu.
John R. Hulme, — Pancreate.
Henry Jeanneret, — Dyspnœa.
Joseph White Johnson, — Hepatitide.
George C. Julius, — Hydrocephalo.
John Knapp, . — Podagra.
John Lee, . — Respiratione.
Frederick Leighton, — Apoplexia.
George Lloyd, . — Cute.
Henry C. Ludlow, — Hepatitide.
Charles Lush, . — Contextibus Morbosis.
Walter Manners, — Dyspepsia.
James Nash, . — Usu Arsenici medicinali.
Samuel Palmer, . — Munere Absorbente.
Beddoes Peacock . — Morbis Phthisicis.
Francis George Probart — Catalepsia.
Samuel Rastall . — Hepatitide Acuta et Chronica.
Edward Rigby . . — Iodino.
Charles Simpson . — Asthmate.
Thomas Simpson . — Usu Sanguinis Mittendi.
Edward Smyth, — Tetano.
George Steed, . — Pneumonia.
Henry Thomson, . — Febre Puerperarum.
Nathaniel Allan Travis, — Apoplexia.
John Goodwin Welch, — Phrenitide.
David Blair White, . — Dyspepsia.
Charles Wilkinson, . — Amaurosi.
Richard Wise, . . — Uteri Retroversione usque ad finem Graviditatis perstante.
James Woodforde, . — Usu Purgantium.
William Holt Yates, . — Inflammatione Membranæ Mucosæ Pulmonum.

From Isle of Wight.

Robert Miller Wavell, — Digitalis Usu.

From Wales.

Thomas Hughes . De Ciborum Concoctione Læsa.
Llewelyn Jones, . — Phthisi Pulmonali.
Henry Lucas, . — Tabe Mesenterica.
Tho. Prestwood Lucas — Febris Tempore primo.
John Williams, . — Succi circuitu atque de Respiratione in Plantis.
Edward Wilson, . — Scarlatina.

From Ireland.

John Myers Atkin, — Apoplexia Sanguinea.
Thomas Atkinson, — Hepatitide.
Thomas Backhouse, — Accessione Morbi.
Edward Barry, . — Delirio Tremente.
Gerard Barry . . — Scarlatina.
William Bennett . — Auscultatione Mediata.
John Brady, . . — Rheumatismo Acuto.
Henry Gordon Brock, — Tetano.
George Bushe, . — Lue Venerea.
Dominick J. Corrigan, — Scrophula.
Charles Davis, . — Vermibus Vesiculosis vel Hydatidibus.
James Dease, . — Pneumonia.
John Dill, . . — Inhalatione per Cutem.
Joseph Ferguson, . — Cataracta.
Arthur Garry, . — Dysenteria.
Joseph Gillichan, . — Intestinorum Vermibus.
William John Greer, — Necrosi.
John Hamett, . — Tuberculis, Vomicis, et Hepatizatione Pulmonum deque Cœlo hæc ipsa excitante.
John Ivers Hastings, — Pneumonia.
John Hendrick, . . — Hepatitide.
Peter Hennis, . . — Scrofula.
Charles Higgins, . . — Ictero Jecinorisque Physiologia.
Benjamin Johnson, — Typho.
Thos Holmes Justice, — Delirio Tremente.
Luke Kelly, . . — Hæmorrhagia Uterina.
Cuming Kidd, . — Enteritide.
James Leahy, . . — Scarlatina.
Alexander Leney . — Febre Hectica.
James Wm. Macauley, — Rubeola.
John Macdonnell, . — Calore Animali.
William Macoubrey, — Ictero.

Andrew Madden, . De Hydrocephalo Acuto.
Nicholas Markey, . — Anasarca.
John Motherwell, . — Parturitione Hæmorrhagica.
Walter Wm. Murphy, — Hydrocephalo Acuto.
Francis Scott, . — Scarlatina.
John G. Scott, . — Phthisi Pulmonali.
John Hartley Sinclair, — Rheumatismo
Thomas Sinton, . — Erysipelate.
William Stokes, . — Ascite.
Michael Sweeny, . — Dysenteria.
John Tegarty, . — Cynanche Tracheali.
John Walsh, . — Rheumatismo Acuto.
Arthur West, . — Febre Intermittente.
John Grove White, — Hepatitide.
Arthur Wood, . De Hepatitide.
Joseph Worrall, . — Apoplexia.

From Barbadoes.

J. Wm. W. Carrington, — Tetano.
Baynes Reed, . — Febre Flava.

From Bermuda.

Francis Augustus Eve, — Febre Flava.

From Antigua.

Henry N. Murray, — Dysenteria.

From Santa Cruz.

Cristopher Johnson, — Hepatitide.

From America.

John James Mitchell, — Scarlatina.

From Nova Scotia.

Frederic Wm. Morris, — Capitis Injuriis.

From the Cape of Good Hope.

Jacob Versfeld, . — Climate.

From the East Indies.

A. Campbell Duncan, — Cholera Indiæ Epidemica.

Extracts from a Letter from Thomas Stewart Traill, M. D. Liverpool, to Dr Duncan, Jun.—Oil in the Serum of Human Blood.—Another case of this remarkable occurrence has lately fallen under my observation. The following account of the history of the case transmitted to me, with the serum, by Mr Ashton, a highly respectable practitioner at Prescot, will be interesting.

"Dear Sir,—I dare say you will recollect; when we were in attendance on Mrs B—, that I mentioned the case of a man, the serum of whose blood was cream-coloured. You were so kind as to promise to analyse it, but it had been inadvertently thrown away. He was bled twice on 21st of April, and the serum was of the colour above mentioned. Anxious to procure some of the same, I bled him again on the 24th, but the serum of that blood was nearly natural. The man recovered, but he was again taken ill a few days ago. I saw him on Saturday evening, (July 2d) and found him very feverish, with great difficulty of breathing, *stitches* about his ribs, and acute pain at the pit of his stomach. His tongue was white, and thickly coated; pulse hard, full, and strong. I bled him to the amount of 24 ounces, which relieved him immediately; and I herewith send you some of the serum of his blood. It has just the same colour as it showed in April. He is a person who lives rather *intemperately*. I am, Dear Sir, your's truly,

E. Ashton."

This serum had a rich isabella-yellow, or cream-colour. It was, when recent, a homogeneous fluid of the consistence of rich cream; but, on being kept, it coagulated so as not readily to pour from the bottle.

On analysis, it yielded the same ingredients as the former specimens; but the proportion of oil in this was greater than in any which I had before examined. A paper dipt in it, and applied to the flame of a candle, did not inflame; but it scarcely crackled in the flame, when applied to the wick, as watery fluids usually do.

This case shows, that the appearance of oil in the serum of the blood is the consequence of disease, and that it soon disappears when the inflammatory complaint is subdued. In all the cases of this sort, which have fallen under my observation, the patient has laboured under internal inflammation, affecting the chylopoietic viscera, and has been more or less addicted to the abuse of strong liquors.

Does this tendency to the formation of oil, or at least to its presence in the circulating fluids, throw any light on the very extraordinary cases of what has been (probably erroneously) called the SPONTANEOUS COMBUSTION of individuals addicted to intemperance?

Internal use of Native Oil of Laurel, or Aceyte de Sassafras.—My friend Charles S. Parker, junior, having sent to me, from the West Indies, a bottle of this essential oil, which is highly extolled as a medicine by the Indians on the Oronooko, I have made several trials of it as an internal remedy. I took it myself, for 6 weeks to the extent of 20 drops, two or three times a day, in hopes of obtaining relief from a very painful *sciatica;* but without the least advantage. I found it by no means unpleasant to the stomach, in doses from 10 to 15 drops on a piece of sugar; and it is a grateful and powerful diuretic. In several cases of general chronic rheumatism, however, I have prescribed it with marked advantage. In one instance it removed, in a short time, a chronic rheumatism of the limbs, which had for nearly two years afflicted the patient. In another case, after severe acute rheumatism, it had a marked influence in mitigating the distressing flying pains which so often follow that painful disease. I have used it also externally in rheumatism; but its high price renders this an objectionable mode of employing it; and I did not find that it possessed any advantage when thus applied, over our more common rubefaceants and stimulating liniments. It seems to be a species of turpentine, more resembling balsam of copaiba in odour and taste than any other substance, and I have used it instead of the latter in a few cases. I send you a small phial of it. Like some other new remedies, it has been extravagantly extolled as a remedy for gout, rheumatism, and many other ills "which flesh is heir to;"—but I have no doubt of its proving a valuable addition to our Materia Medica.

I send you also a specimen of *pure* balsam of copaiba, as obtained by the Indians, in its native forests, and warranted free of any adulteration, which is said not to be frequently the case with the best which is seen in the shops.

FOREIGN.

Comparison between the State of Ophthalmic Surgery in France and Germany, by Dr F. A. AMMON *Dresden.—Gräfe's and Walther's Journal fur Chirurgie und Augenheilkunde. February* 1825.—The complaint, that in France ophthalmic surgery, in its widest sense, has not received the attention which it deserves, has even been confessed by a celebrated French * oculist; and from time to time † works in Germany ‡ have thrown light on this important circumstance, and clearly shown that in France the knowledge of the diseases of the eye remains stationary at that point which it long ago attained, whilst the Germans are cultivating this branch of medicine with greater zeal, and are striving to bring it to the highest point of perfection. A general view even of ophthalmic science in France, as it now exists, will be sufficient to confirm this statement; and a closer insight into the practice of the French oculists, gives the sad result that it contains nothing but the glory of their ancestors—that it is the same as in former times. With us, on the contrary, this science has reached a point, which may be truly called the culmination point—what was formerly prepared by BARTH, RICHTER, and others, has been brought near to perfection by BEER, J. A. SCHMIDT, HIMLY, VON WALTHER, LANGENBECK, and GRAEFE. Since the beginning of the present century, ophthalmic surgery in Germany has taken a peculiar direction—on the one hand, it has become an independent science, and on the other it has been considered more in relation to the whole organisation. The connexion, however, of ophthalmic surgery with surgery in general, scarcely exists in France. Both are separated, and when a few celebrated surgeons occupy themselves with diseases of the eye, they are exceptions to the general practice, and confine themselves merely to the operative part. Even in the year 1822, the charlatanerie of several oculists in Paris could scarcely be exceeded. At the corner of the streets there was no lack of advertisements from the *medecins-oculistes*, announcing their eye ointments, *pommades antiophthalmogiques*, and lotions, and particularly boasting of their talents. The announcement of a M. G. *de la Chanterie*, *celebre medecin-oculiste* was to be found in all coffee and eating houses, and was even sent to all strangers at their own lodgings; and in several of the provincial towns this species of quakery was, if possible, still carried to a higher pitch.

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* GUILLIE, *Bibliotheque opthalmologique,* T. I. Cap. I. Paris 1820. Introduction, p. x. "La pathologie oculaire a été malheureusement trop negligé par les observateurs," &c.

† Wenzel's excellent remarks in his work *Ueber den Zustand der Augenheilkunde in Frankreich nebst kritischen Bemerkungen über denselben in Deutschland.* Nurnberg, 1815.

‡ Later, CASPER'S Charakteristik der französischen Medicin, Leipzig, 1822.

In France there are no particular institutions whatever for the purpose of forwarding the study of the diseases of the eye. Notices of lectures on this important branch of medical science, are to be sought for in vain in the catalogue of the celebrated Faculty of Medicine at Paris; they were formerly attempted, but did nct succeed. § The diseases of the eye are treated in the lectures as a part of external pathology. As far as regards the literature, there certainly are not wanting new works and compendia, in which the eye-diseases are treated apart from the rest of surgery; we will only name here Delarue ‖ and Demours. ¶ But a comparison of these works with those of Guillemeau, Maitre Jan, de St Yves, and Guerin, clearly shows that they have not advanced beyond that point which their forefathers had obtained; whilst Demours, with a succession of tediously long cases, and a number of questions and answers, leads the reader to no conclusion, but tires his patience,—Delarue endeavours to make up for the deficiency of his materials by the most extraordinary declamation. Since the year 1819, there has existed a French Journal for diseases of the eye. Guillie began it with the title of *Bibliotheque ophthalmologique*, with the assistance of Dupuytren, Alibert, Pariset, Lucas, and Nauche. This journal has undoubtedly for its object the promoting in France, that study which unfortunately has been there too much neglected, but its plan appears but ill suited for the accomplishment of this purpose. This journal, instead of beginning with establishing a scientific symptomatology of the diseased eye, a thing so much wanted in France, enters directly on the treatment of diseases, with the pathology and nature of which the French appear unacquainted. Instead of commencing with a natural division of the different kinds of ophthalmia and their diversified treatment, it immediately recommends certain empirically tried remedies, or contains the history of some operation. " Inflammation of the eye, with its consequences, is a wide field for the oculist. Every one flatters himself with knowing it; the lowest man in the profession knows how to speak of rose-water and sugar of lead, but it is granted only to a few to have a clear insight into this branch of ophthalmic diseases. " This assertion of Wenzel's (Lib. sup. cit.) severe as it is true, is characteristic of the ignorance of the French oculists. Guillie could have taken no better motto for his journal than the following passage from Bacon—" Frustra magnum expectatur augmentum in scientiis ex superinductione et insitione novorum super vetera, sed *instauratio facienda est*, ab intimis fundamentis, nisi perpetuo libet circumvolvi in orbe cum exili et quasi contemnendo progressu. " *Nov. organ.* 31. The French literatnre contains no compendium with answers to the demands of all. Had Delarue considered that the eye can only be examined by the eye, he would not have failed to enrich his work with a better symptomatology, and more certain rules for distinguishing between the different diseases. Demours' abridgement from his large work has the same fault which is censured with so much justice in his larger one. What Roux, Lassus, Richerand, and Boyer, contain on diseases of the eye in their works on surgery, is in part not complete, and in part taken from the work of Wenzel and others. Sabatier, in his operative medicine, has given in the first edition of that work, every thing which relates to the operative part of the eye in a very creditable manner, but in the new edition from Begin and Sanson, this part is considerably neglected.* Works on any particular diseases of the eye are of a very rare occurrence in France, and with the exception of Guillie's † work on cataract and amaurosis, no similar work of the kind has of late appeared, unless we except some inaugural dissertations from the candidates for degrees at Paris or Montpellier. The impulse given to the study of physiology in France, has brought some important and yet disputed points on the physiology of the eye under examination. Besides Magendie's investigations on the mode ‡ in which substances are reflected on the retina, the nature and substance of the iris § have been examined, together with the nourishment of the lens and the existence of the liquor Morgagni. It would lead us too far from our present purpose, were we to enter into an examination of the opinions of these different anatomists and surgeons. The subject has been treated in Germany by V. Walther in his ciliary-nervous system, and Graefe in his observations on the use of the ciliary processes, and several others, whose works are familiar to our readers. Any work, however, equal to that of Soemmering's or Zinn's, is not to be found in the French literature. And it is quite a matter of surprise, that in neither of the two countries (France or Germany), where anatomy is cultivated with such zeal, has a work on the surgical anatomy of the eye appeared.

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§ Formerly Demours gave Ophthalmic lectures. Vid. *Baldinger's Journal Medic. et Phys. Gottingen.* 8. V. B. 18 No. p. 48; and later, similar lectures were given by Delarue.

‖ *Cours complets des maladies des yeux.* A Paris 1820. 8. edit. 2. 1824.

¶ Traité des maladies des yeux avec des planches colorées d'aprés nature. Suivi de la description de l'oeil humain, etc. Paris, 1818; 3 vol. in 8, et 1 vol. in 4, d. Planches br.

Precis theorique et practique sur les maladies des yeux. Paris 1821, in 8vo. an abridgement of the larger work.

Although there exists in Paris several excellent institutions for the education and provision of the blind, there is not one single institution solely for the reception of eye diseases, and in none of the large hospitals in the metropolis are there any proper arrangements for the treatment of these affections. The complaint which Wenzel eight years ago made respecting this shameful neglect, we must now repeat. Particular apartments with suitable arrangements respecting the admission of light, &c. for the treatment of diseases of the eye, are not to be found in any hospital. Every unfortunate patient is dispersed throughout the wards, protected only from the influence of the light and draughts by the bed-hangings, so that the disease is as frequently made worse as it is mended. The difficulties which prevent the necessary arrangements for treating diseases of the eye in these institutions are unknown to us, but it appears as if no one wished them to be otherwise. Since the erection of ophthalmic institutions, the study of diseases of the eye have taken a high and fixed direction, and this epoch is one of the most important in the history of this science. No where, however, is this change seen in a more extraordinary manner, than in the history of ophthalmic medicine in England, which since that period has undergone a complete change, and is in every respect improved. To the neglect of this point we think must be attributed, the fact of the French being behind both the Germans and English in the knowledge of ophthalmic medicine.

We will now turn to the merits of the French in ophthalmo-nosology, and in the treatment of ophthalmic diseases. The important points respecting the inflammation of the eye are very superficially treated in the French literature. With the exception of Le Febure's monography or treatise on this subject, we are not acquainted with any similar work of the kind. Nor has the contagious ophthalmia, which has so much occupied the attention of medical men of late years, a better fate. Although the French armies suffered most dreadfully from this complaint, although the French invalid houses were crowded with the blind, who lost their sight from this disease, yet the mode of subduing this disease was never brought under discussion by them, and only LARREY and DESGENETTES gave their medical opinions on the disease. Even recently when this complaint attracted the attention of the French government, and when it became the subject of the researches of several authors, we do not discover among the French that enthusiastic zeal which the Germans have displayed in the examination of this subject, and to which we are indebted for so many valuable investigations into the nature of the disease. The works, from BALTZ in 1815 to GRAFE in 1823, are known to all Germans, and do not require here any further notice. It may not be amiss perhaps to make a few historical remarks respecting the contagious ophthalmia, which do not appear to be generally known. GRAFE, who has treated this subject most thoroughly, * believes that here and there traces of a similar disease are to be found in the ancients (Xenophon's Anabasis.) GEORGE BARTISCH, chief oculist to the Elector Augustus of Saxony, gives in his work † on diseases of the eye, which appeared at Dresden in 1583, descriptions of two kinds of ophthalmia, which, in relation to their symptoms, very much resemble the contagious ophthalmia. Even the dedication page of the book contains a plate of a diseased eye, the appearances of which are extremely similar to the contagious ophthalmia. BARTISCH certainly did not suppose that this disease propagated itself by contagion, and he, who was accustomed to examine, according to the time he lived in, with extraordinary minuteness into the causes of this disease, fled to incantation as a refuge, and which he considered as the source of this terrible complaint. The second notice that we have of a contagious ophthalmia having formerly prevailed, is from a work which HALLER mentions in the following words:—"*Jacques d'Ambroise, medici et chirurgi, an ab oculis contagio. Paris*, 1605, 4. *lego citari.* Vid. *Bibliothec. Anatomic. T. I. p.* 307. We ourselves are not acquainted with the contents of this work, but we take the present opportunity of drawing the attention of medical men to it, that in the investigation into the history of so dreadful an ophthalmia, they may not lose the slightest help. Several French physicians deny the contagious power of this inflammation. Whilst DELARUE does not meddle with this important point, DEMOURS gives it as his opinion, that the contagious complaint is produced by an epidemic influence. Other physicians, among whom I will only name Guillie, are convinced of the contagious nature of this disease.

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* *De la medecine opératoire, p.* R. B. Sabatier. Nouvelle edition faite sous les yeux de M. Dupuytren par L. J. Sanson et L. J. Begin, a Paris, 1822, 2. tomes. 1824. T. III. and IV.

† Nouvelles recherches sur la cataracte et la goutte sereine. Par Guillie, sec. edit. Paris, 1818, in 8.

‡ Memoire sur les images qui se forment au fond de l'œil, précédé d'un memoire sur l'usage de l'epiglotte. Paris, 1812.

§ Jules Cloquet, *Memoire sur la pupille de l'iris.* Paris, 1818.

Nysten, *Recherches de physiologie et de Chimie pathologiques, pour faire suite à celles de* Bichat *sur la vie et la mort.* Paris, 1811.

Maunoir, *Memoire sur l'organization de l'iris et l'operation de la pupille artificiale, in 8.*

Larrey, *Recueil des Memoires des Chirurgie.* Paris, 1821.

Iritis, its causes, progress and cure, have been thoroughly investigated by the Germans, and they have given certain diagnostic marks by which the complaint may with certainty be ascertained. If, however, this disease is not unknown to the French physicians, it is very frequently mistaken by them; and if at first the strict antiphlogistic treatment were not adopted against every disease of the eye, the inflammation of this part of the organ of sight, would only too often run through all its stages undiscovered, till the mistake was made known in its dreadful consequences. As syphilitic iritis was first made known to the French by the observations of the Germans, so have they cast on us the unfounded reproach that we attribute every kind of iritis to a syphilitic cause,—wonderful delusion! The term *hippus* enjoys among the French no fixed meaning, as with us, where it is either designated to represent spasms of the iris, or a continued fluctuation of the iris from the posterior to the anterior chamber, and *vice versa*. The situation and form of the pupil and its colour, symptoms from which so much assistance may be derived in forming a true diagnosis, and the importance of which V. Walther has shown in a classical paper on diseases of the ciliary system, do not meet from French oculists the attention they deserve. Dupuytren only is an exception, and his acute perception, and great tact often enable him to foretel from these circumstances what course the disease will take. The diseases of the anterior chamber, in which most inflammatory affections are to be found, have attracted the attention of oculists both in Germany * and England; † we allude principally to the inflammation of the tunica humoris aquei and its consequences, but in France have been quite neglected. Of all the different modes of curing opacities of the cornea, Dupuytren's in Paris enjoys the most extraordinary fame. It consists shortly of the following means; if there is an inflammation of the cornea, or only of the neighbouring parts, and this is but slight, Dupuytren orders blood-letting, or directs the application of some leeches. Then in about four days some gentle purgatives will be given. As soon as the inflammatory symptoms are removed, he orders the following powder to be blown into the eye morning and evening, ℞ *Tuthie preparée, Sucre candi, calomelas anglais, a parties egales.* This is continued for some weeks, and seldom fails within that time to effect its object. If the opacities are already very old and large, and approaching to a leucomatous nature, then a seton at the nape of the neck is necessary, and the powder is blown into the eye for some minutes at a time.

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* *Die epidemisch-contagiöse Augenblennorrœa Ægyptens in dem europaischen Befreiung's-heere, ihre Enstehung, Erkenntniss, Vorbeugung und Heilart, während der Feldzeuges* 1813, 1814, 1815. *Von Dr C. F Gräfe, Mit.* 5 *Kupfertafeln*, 1823. *Fol. Berlin.*

† Οφθαλμαδυλεῖα, in fol. Dresden, 1583. The oldest work in Germany on diseases of the eye, and contains much interesting matter—another edition of the same work appeared at *Sultzbach in* 1686.

In adults, commencing disorganization of the cornea, which threatens to go over into a staphylomatous metamorphosis, is successfully treated by Delarue with caustic lotions. The deceased oculist Pellier of Montpellier, states, that he cured, in 1779, a leucoma, by means of a seton drawn through the opaque part of the cornea. The seton consisted of a double silk ligature, and was daily anointed with the unguentum basilicum. Delarue also assures the profession, that he has tried the same means with success. If, however, Juvenal's words are not applicable,—

> " ——— non hic,
> Cantatur, res vera agitur."

still the thing is extremely remarkable, and deserves a more minute consideration. Dupuytren also employs with success, in very prominent disorganization of the cornea, conjunctiva, &c. gentle pressure, gradually increased, which he effects by means of small compresses, made of charpie, and covered with linen; these he makes large or small according to circumstances, and then binds them on to the projecting part. The antiphlogistic plan of treatment is the one generally employed in all diseases of the eye, and Sangrado's assertion, "*c'est un erreur de penser que le sang soit necessaire à la vie, on ne peut trop saigner un malade,*" is unfortunately echoed by too many. The slightest inflammation of the eye requires. in France, bloodletting; and without leeches, the most trivial catarrhal ophthalmia will not be treated. In short, the French go into two extremes in the treatment of ophthalmia; generally they employ an antiphlogistic, and locally an irritating plan of treatment. The topical applications in general use are lotions. Cataplasms also are more frequently ordered in the French than in the German hospitals. Whilst the blowing of different kinds of powders on the surface of the eye, is entirely done away with in Germany, and the application of these substances by means of a pencil, is substituted for it, one still sees this plan daily employed in the Hotel Dieu. Dupuytren is a great friend of this mode of employing local applications, of which calomel is his favourite. Fischer, a German surgeon, several years ago recommended the use of this form of quicksilver locally in acute ophthalmia, particularly in corneitis, when it has passed over into the chronic stage, and when the whole anterior chamber, as well as the iris, are also sympathetically affected. I employed it once myself with advantage in a staphyloma, which was the result of an ophthalmia neonatorum, and by the long continued use of the calomel, the projection of the cornea disappeared, and the little child could afterwards close the eyelids with ease. In one case the cornea resumed its transparency, and the power of vision was restored.

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* Langenbeck's neue Bibliothek IV. B. 1 str. stuck. S. 66.

† Wardrop. An Essay on the Morbid Anatomy of the Human Eye. Edinburgh, 1808.

Dupuytren, after a continued use of the belladonna internally, for the space of ten years, is perfectly convinced of its efficacy in long standing cases of scrofulous ophthalmia, and in the inflammatory symptoms occurring after depression of the cataract, which he generally takes to be those of *retinitis*. He gives either the *pulvis belladonnæ* in the dose of 3 to 12 grains upwards, or the extract of bell. from 1 to 3 grains, in six pills, of which two are to be taken every hour. Bloodletting, leeches, emetics, and strong derivantia, as epiplastica, and blisters, frictions from tartar emetic ointment, and setons, are the other medicines which are at present used in the treatment of obstinate ophthalmia, amaurosis, and incipient cataracts, by the French surgeons. To the nature and origin of encysted tumours (*kyste sereux*) in the lamellæ of the cornea, which have neither been described nor observed in Germany, Dupuytren has lately directed his attention. This surgeon observed in a child a serous encysted tumour, which had developed itself between the lamellæ of the cornea, and which he at the first view conceived to be an opacity of this coat. This remarkable pathological appearance was the consequence of a blow from a stone, which had struck the eye of the child six weeks before. Dupuytren introduced a cataract-needle into the small cyst, and moved the instrument up and down in it, in order to irritate its inner surface. The fluid in the tumour was thus evacuated; but in fourteen days afterwards it formed again. The operation was again repeated, and adhesion of the sides of the sac took place, but opacity of the cornea remained behind. The mode employed for the removal of staphyloma in France, is either Scarpa's, or a modification of Scarpa's operation. Pterygia are also removed there by scissors, bent in a line parallel with their handles. An artificial eye is frequently worn after the removal of staphyloma, although some recommend it only to be employed after the extirpation of the bulb. We cannot let the present opportunity go by without speaking of the employment of *senega* in different diseases of the eye, the excellent effects of which Dr Schmalz in Pirna, in the course of ten years, had an opportunity of observing. *Senega* appears to be the vegetable calomel. Wendt,[*] in Erlangen has already spoken of its employment and use in the treatment of hypopion. Within the space of twenty-six years, this physician had an opportunity of observing the good effect of this plant in suppuration of the eye, no less than thirty times.

Cataract.—Since the time that V. Walther[†] in Bonn drew the attention of German physicians and surgeons to the fact, that several diseases of the crystalline lens and cataract take their rise from inflammation of the capsule, or of the body of the lens itself; this opinion has been generally adopted in Germany. It is a matter of no little surprise, that in France, where all diseases are looked upon as inflammatory, this theory is generally doubted. In France, the origin of cataract is attributed by some to the metastatic effect of some existing irritation, sudden suppression of accustomed secretions and excretions, or a disproportion between what is exuded and absorbed within the capsule; others believe that the origin of cataract may be explained by thinking it a necrosis,[‡] or gangrene of the capsule, and, taking the soft parts which surround the lens for the residuum of a chemical decomposition and physical dissolution of the crystalline, and the different changes of colour which one observes, for an accidental result of new connexions, that form themselves in the separated and decayed parts of this body. The modern French ophthalmic writers conceive it very improbable, nay, almost impossible, that inflammation of the capsule or the lens can take place, and they endeavour to support their opinion in part by the false assertion, that no inflammation can occur where there are no blood-vessels, and in part by saying that a cataract is peculiar to old age. But as they are aware of the possibility of the formation of pus in or on the capsule, so they are obliged to confess, that inflammation of the lens is possible, but that it is very difficult to detect, and they repeat the hackneyed saying, that the patients must bear the inflammation of the lens or the capsule till the opacity has proved itself, because it is only then that any assistance can be rendered. Still there are to be found persons opposed to this opinion. Dr VALENTIN affirms, that he has prevented the formation and ripening of incipient cataracts, by repeated emetics. GONDRET, a Parisian oculist, ‖ assumes to himself the credit of having cut short the formation of a cataract by the application of cauteries over the tuberosity of the occiput; and LARREY does not hesitate to say, with an air of dogmatism,—" *Le defaut d'action dans les membranes du globe de l'œil, la cataracte commencante indique veritablement l'application du moxa.*"

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[*] *Annalen des klinischen Institute auf der Academie zu Erlangen, herausgegeben von Dr Freiderick Wendt, Ister Heft, Erlangen*, 1808.

[†] *Abhandlungen aus dem Gebiete der praktischen Medizin, besonders der Chirurgie und Augenheilkunde Ister Th. Landshut*, 1810, *in* 8.

[‡] *Guillié, Nouvelles Recherches sur la Cataracte.*

The finer distinctions between the different forms and kinds of cataract, as they are described in German works, and taught in the clinics in Germany, are certainly also known in France, but, on the whole, are quite disregarded. We even saw some well informed French surgeons doubting whether it was possible, by the mere sight, to determine whether the cataract was hard or soft. In the few past years, the cataracta nigra and the congenital cataract have principally occupied the attention of the French oculists. If the lens or its capsule in a congenital cataract is quite opaque, and organically formed, the French oculists generally defer an operation till the child has grown up. If, on the contrary, the opacity in the beginning were slight, but afterwards made greater progress, till the pupil was closed, and if in this state the pupil did not lose its mobility, DELARUE believes that the lens may recover its transparency. In this age the vitality of the absorbent system is strongest, and it is by this alone that the effect can be produced. An opinion for a long time prevalent, that in congenital cataract the capsule only was opaque, whilst the lens is in a perfect state of transparency, DELARUE has lately endeavoured to prove to demonstration. He asserts, that by means of a needle brought through the cornea, he has opened the opaque capsule in the centre, and thus allowed the free passage of the light to the retina.

DELARUE has lately denied the existence of the cataract which has been described by writers on diseases of the eye, namely, that which consists in an opaque state of the liquor Morgagni, since DELARUE denies the existence of this humour altogether, having never seen it by the most minute dissections. The kind of cataract known and described by the name of *cataracta nigra*, has in modern times found a warm supporter in GUILLIE. GUILLIE believes that the black cataract shews itself in countries far north and south, and that those of a sanguineous temperament were more frequently affected with it than persons of a relaxed and lymphatic constitution. It is not difficult, according to GUILLIE, to distinguish the cataracta nigra from glaucoma. The pupil has, says GUILLIE, a colour (?) *sui generis*, which one can never mistake after having once seen it; one never observes the green hue which characterizes the affection of the vitreous humour. The diagnosis of the black cataract from amaurosis, is more difficult. GUILLIE believes that the spontaneous change of position, or the depression of the black cataract, is often mistaken for a cure of an amaurosis. The relaxed and hazy iris generally retains its power of motion when the black cataract is present, and the loss of vision is more gradual than in amaurosis. GUILLIE is also of opinion, that the operation of extraction is indicated in this kind of cataract.

In no country has so much been said and written on the different operations for cataract as in Germany, the followers of BEER being strongly in favour of extraction by the cornea, whilst RICHTER's disciples prefer the use of the needle. We need here only mention the names of WILLBURG, SCHIFERLI, and GUNZ, to bring to recollection the different modes which have been tried in the removal of the lens from the axis of vision. In 1806, also, BUCKHORN came forward with the first idea of the operation of Keratonyxis, when a new field of discussion opened itself, and a terrible contest ensued. It would be, therefore, almost difficult to say which mode was most employed in Germany. In France, also, different surgeons adopt different modes of operating: For instance, in the HOTEL-DIEU, DUPUYTREN operates only with the needle, whilst ROUX, in the *Charité*, always extracts. The operation performed with the needle is generally a modification of Scarpa's. Specula for fixing the upper eyelids, I never saw employed. The assistant always held them with the fore-finger of one or both hands. The position in which the surgeons performed the operation varied, some standing, and others sitting. The patients were generally placed in the sitting posture, excepting in the HOTEL-DIEU, where DUPUYTREN always operates on the patients in bed. If about to operate on the right eye, he places himself on the right side of the patient, and in front, and then with the right hand fixes the under eyelid, and *vice versa* if on the left. The needle, which he holds between his fingers like a pin, resembles Schmidt's, has a double cutting edge, and a moderate curve. He supports his hand by means of the little or ring-finger on the cheek or temple, and then introduces the needle about a line and a half removed from the cornea, in the transverse diameter of the eye, through the sclerotica, and describes with the handle such a motion, that the point of the needle appears in the opening of the pupil. He then lays the convexity of the needle on the lens, fastens with the point the anterior surface of the cataract, and presses it downwards, outwards, and backwards under the corpus vitreum. During this manœuvre of the instrument, the handle must also be moved forwards, upwards, and inwards. If the pupil be now clear, he lets the point of the needle rest in the same direction downwards, so that the corpus vitreum, in which the cataract is depressed, and which is to a certain degree separated, might flow together, and prevent the ascent of the cataract. DUPUYTREN conceives it a point of great importance to depress the capsule at the same time with the lens , or, in the case where it remains behind, he carries the needle, after the depression or reclination has been performed, again upwards, and endeavours to bring the remaining portion of the capsule into the anterior chamber, that it may there be absorbed. If a secondary cataract occurs, DUPUYTREN operates again, and endeavours to depress the opaque lens, or bring it into the anterior chamber. If the cataract be soft, or if it be a milky cataract, DUPUYTREN always performs the decision (le *broiement*) through the sclerotica. DUPUYTREN attributes his success in the operation for cataract in no small degree to the horizontal position in which the patients are always placed during the operation. He also invariably avoids operating when any rheumatic cattarhal diseases are prevailing. One of the most common, and at the same time dangerous consequences of the depression or decision of the cataract, according to DUPUYTREN, is the inflammation of the retina (*Retinitis*), which some physicians, who pay attention to a few symptoms only of the disease, without looking at the whole, term *iritis*. This disease we had an opportunity ourselves of frequently witnessing at the HOTEL DIEUX, particularly in scrofulous children. The symptoms were, great intolerance of light, cloudiness of the humours, contraction of the pupil, redness of the conjunctiva, and spasmodic contraction of the orbicularis. The disease sometimes terminated in loss of vision, which is caused, according to DUPUYTREN, by the formation of a new fibrous pellicle (*une pellicule fibreuse accidentelle*), which adheres to the iris. An operation, however, may again be performed after a few months, by which there is a chance of restoring vision. If the frequent occurrence of this disease is not to be attributed to the mode in which the operation is performed, which is not sufficient to account for it, when the patients are examined, on the morning after the operation, by candle light ; and if, with this very injudicious treatment of one of the most delicate organs of the organismus, the success * of the eye-operations is still considerable, it is owing to the strict antiphlogistic means which this surgeon employs both before and after the operation.

‖ *Vide Delarue's Work, p.* 144.

With respect to a practical course of instruction, where one is taught how to perform the different operations on the eye, such as is to be found in every German university, we find nothing of the kind in Paris. In Lisfranc's[*] operative school the operations on the eye are most superficially taught. All the operations of this kind are performed on collapsed eyes, which have laid in the dead-house several days. *Phantomes,* for the teaching of the eye operations on the eyes of animals, are quite unknown. There Lisfranc confines himself almost entirely to the teaching of Sclerotonyxis, and scarcely touches upon the difference between depression and reclination; and if, in recommending, with Savonarola,[†] to keep the cataract in the bottom of the eye till one can say the "*Miserere,*" or "*Pater noster,*" he leaves his scholars in uncertainty whether the observation is to be taken in joke or earnest.

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* According to RATUR, the success of the operation for cataract in the *Hotel Dieu* is as 7 to 8 ; and from BEGIN and SANSON (SABATIER, *Nouvelle Medécine Operat.* 1824, t. iv. p. 175), we learn, that between the years of 1814 and 1823, there were admitted into the *Hotel Dieu* 306 cataractous patients. Of these there were 180 men, and 126 females. In 265 the cataract was depressed, and in 7 extracted ; in 9 keratonyxis was performed, and in 25 the operation was contraindicated. Of these, 216 were cured, 25 under cure, and in 40 the operation was unsuccessful. Of the cataracts there were 279 lenticular, 22 membranous, and 5 milky.

If we take a glance at Germany, we shall find, as far as regards the *sclerotonyxis,* a warm supporter in Langenbeck. This celebrated surgeon, whose merits in ophthalmic surgery are generally known, has been so fortunate in the performance of this operation, that from forty on which he operated, thirty-nine recovered their vision. Langenbeck, however, unlike some of the principal surgeons in Paris, determines on the nature of the cataract before he operates, and regulates the nature of the operation accordingly. Roux and Demours are great friends for extraction. Demours says,[‡] "*L'orsque rien n'indique specialement la depression, il faut extraire.*" Both of these surgeons have in a few points modified the operation of extraction, but, strictly speaking, the operation of Wenzel is the one generally employed, although those few who are not entirely ignorant of what has been done out of their country, have adopted Beers' improved operation. What Wenzel, nearly eight years ago, said respecting the French asserting to themselves the claim of having invented the keratonyxis, has actually taken place. "It almost strikes me," says Wenzel,[§] "that the French will claim the invention of the keratonyxis, and that they will finish by saying that they had perceived its inefficiency ten years at least before the idea of the operation ever struck the Germans." Dupuytren, some years ago, was going to operate on a girl for cataract in the usual way, viz. by the sclerotic; but the patient was so restless that it occurred to him to introduce the needle through the cornea, and in this way depress the cataract. Thus the late translators of Scarpa's work relate to us the story, and usurp to French surgery the invention of the keratonyxis. Guillie and Faure are the only two that we know who have advocated the operation of keratonyxis. The first of these has often performed this operation, which I had an opportunity of witnessing in Paris. I never saw Dupuytren perform the keratonyxis. Although this surgeon has not quite abandoned, in speaking of it he says, "*consideree sous le rapport des avantages qu'elle peut avoir dans quelque cas particuliers, elle (keratonyxis) merita d'etre conservée.*" The way in which he performs the operation is as follows: After the eyelids of the patient, who is always in bed, as in the other operations for cataract, are properly fixed, Dupuytren takes the needle in the right hand, so that the concavity of the curve rests upwards, and pushes the point of it through the lower part of the cornea into the anterior chamber, and then carries it to the lens. If he wishes to depress the lens, he makes a half motion of the needle on its axis, in order to get the convexity of the needle upwards, and carry its point between the upper part of the iris and lens; then he fastens the cataract with the concavity of the instrument, and brings it on the outer part of the pupil. If, on the other hand, he wishes to cut up the lens, he then does it sometimes with the cutting part, at others with the point. After the decision or depression has been effected, the needle is withdrawn in the same direction in which it was introduced.

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[*] *Vid. Parallele der französischen und deutchen Chiurgie, Leipzig* 1823, p. 37.

[†] *Practica Major Joh. Michael* Savonarola, *Med. in qua de morbis omnibus ea diligentia et arte disputatur, ut iis qui medicam artem exercent, nihil possit esse accomodatius. Venet.* 1560. *fol. Tract.* vi. c. 3. p. 88. "*Et postquam deposueris cataractum teneas eam depressam cum acu, usque quo diceretur unum Miserere, aut tres Pater noster.*"

[‡] *Precis Theorique et Pratique sur les Maladies des yeux à Paris,* 1821, p. 396.

[§] *Lib. sup. cit.*

Artificial Pupil.—The separation of the parenchyma of the iris (*Iridotomia*), is the one generally performed in France for artificial pupil. Demours, the chief of the French oculists, says of it, "*Je n'ai rien trouvé dans les ecrits posterieurs au mien publiés soit en Allemagne soit en France qui m'ait donné tentation de m'ecarter du plan que j'ai adopté.*" It is performed by Demours by means of a needle carried through the cornea. Without stopping to inquire whether Demours be the inventor of this operation, we will only allude to the restricted application of this operation. Demours rejects altogether the *iridectomia*, and regards, in a most unfair light, the separation of the iris from the ciliary bodies; he adheres to the cutting into the iris (*iridotomia*), by which he is repeatedly foiled, or at least succeeds only in making a very slight opening in the iris, in cases much more adapted for one of the other operations. It is a good thing that Cheselden, and the services which he rendered the profession, will not be forgotten, or we should most likely see some unlearned Frenchman endeavouring to give Demours the honour of having invented the operation. Already Demours goes so far as to say,† "*On rend aujourd'hui la vue à des aveugles qui etoient avant l'epoque ou j'elevai la voix en leur faveur dans un etat si desesperè, qu'on ni songeoit pas même a faire la moindre tentative pour les en tirer.*" Roux, I have been told (for I did not see him operate), adopts Adams's improved operation. Delarue, although, like Demours, is fond of Cheselden's operation, yet is almost the only one who gives to the three operations their respective merits. The small hook for the separation of the iris from the ciliary body, is certainly to be found in some of the French instrument-makers' shops; but I never heard it spoken of by any of the oculists in Paris; and as for the coreoncion, it is quite unknown.

Fistula lacrymalis.—Notwithstanding the numerous, and not unfrequently subtile treatises on the diseases of the lachrymal sac and nasal duct, for which Germany is indebted to the talents and researches of a Schmidt, Himly, &c. still the treatment of the disease vulgarly called fistula lachrymalis, remains one of the most unpleasant and tedious parts of surgical practice. In France there exists very little precision as to the nature of the complaint; still Dupuytren is on the whole successful in the treatment of it. Roux, Dubois, and the late Beclard, with several others, employ needles, or pieces of lead, or pieces of catgut, for the dilatation of the narrowed canal, or they modify Desault s mode of operating, according to Scarpa's directions. Dupuytren's mode of operating, the bringing of a gold or silver cannula into the nasal canal by an incision in the lacrymal canal, which has been known to German surgeons for a long time past, I saw frequently performed by Dupuytren himself. The merit of this mode of operating is due to Joubert; and Dupuytren can only be called the reviver of it. After the puncture of the lacrymal sac has been effected, in the performance of which he pays no attention to the tendon of the orbicularis, but only to the nasal process of the superior maxillary bone, he directs the patient, in order to see whether the nasal canal be free, to hold the nose, and make a strong inspiration and expiration; if in the act of expiration, air comes out of the wound, then the object of the operation is generally accomplished. By the strong inspiration or expiration which one is compelled to make the patient perform, it sometimes happens that a quantity of air escapes into the cellular membrane of the inferior eyelid, and the neighbouring parts, so that emphysema occurs, producing a distressing tumour of considerable size. I saw this accident occur in two cases which Dupuytren operated on. The swelling was dispersed by the application of cold in the space of twenty-four hours, but the cicatrization of the wound was retarded. If there should be a fistula, the edges of which are callous, Dupuytren always touches them with the nitrate of silver on the introduction of the cannula. We will give the opinion of two of Dupuytren's scholars (*in the last edition of Sabatier's Surgery, p.* 257, *Vol. II.*), on the result of this operation. "Dupuytren's plan is one of the simplest and most practicable that can be devised. If the cannula is once brought into the nasal canal, and if it remains there firm, then every after-cure is quite unnecessary; the cicatrization of the external wound takes place in four and twenty hours, when the puncture of the sac has been made with the bistoury; if a fistulous opening previously existed, the cicatrization takes place somewhat later. A great number of the patients operated on scarcely know whether they have a foreign body in the lacrymal passage or not, so slight is the inconvenience produced by it. They all exhibit signs of astonishment when the operation is completed, that so little time has been required to perform it. Several patients of all ages and both sexes have been operated on by Dupuytren in this way with the best success. The results of this mode of operating are as follows:—From twenty patients at least sixteen were radically cured, without the slightest displacement of the cannula. In the remaining four cases, from various causes, it was necessary to remove the cannula. If, after the puncture of the lacrymal sac has been made, the *os unguis* is found laid bare and in a carious state, one ought to wait for the exfoliation of the bone, and keep the wound open by means of charpie brought into it, and after this lay in the cannula. If the canal is stopped up, the surgeon must endeavour to remove the obstacle to the side; or if the canal be quite obliterated, or no traces of it existing, as Dupuytren has several times found to be the case, then he makes the perforation of the lacrymal bone, recommended by Wolhouse, Petit, Hunter, Scarpa and others, and then lays in a peculiarly formed cannula, the ends of which are somewhat larger than its centre. The operation of Dupuytren appears to me so well adapted for the cure of the disease, that I am really surprised that it has not met with a more general trial. The cannula can effect no cure where there is a polypous state of the mucous membrane of the canal, or where the inferior concha is the cause of the blenorrhœa of the lacrymal sac; in this last case the drawing through the canal of a silk thread, as recommended by Dr Schmalz of Pirna, will be found peculiarly useful. And, lastly, the application of Dupuytren's cannula is always contraindicated, when, on account of a great narrowing of the canal, great force is required.

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† *Vid. Cours Complet des Maladies des yeux, a Paris,* 1820, p. 209.

Extirpatio Oculi. The extirpation of the eye, which is indicated by the presence of carcinoma or fungus hæmatodes of the organ, is generally performed merely with a simple bistoury, even the division of the optic nerve is also done with the knife. The complaint of the ill success of this operation is in every surgeon's mouth; the disease for which it is performed generally comes again (fungus or cancer), and destroys the patient.

We have thus given a short sketch of the state of ophthalmic surgery in France; and we think that the causes which have hitherto retarded the improvement of this part of medicine in that country will soon be removed, and that in scientific pursuits the national prejudices with which the French have been so long beset, may shortly give way to a nobler and a better feeling.

Treatment of Persons bitten by Mad Dogs, or Dogs *supposed to be Mad, in the Hospital at Zurich. By Dr* Locher Balber. (*Hecker's Litterarische Annalen der gesammten Heilkunde. June* 1825).—On the perusal of the mode of treatment adopted by Wendt in Breslau, for the prevention of hydrophobia after the bite of a mad dog, I was particularly struck with the similarity of the treatment adopted in Breslau and Zurich, and on the singular coincidence of their results. They have been both tried during a long series of years, and are now made known, for the first time, after their efficacy has been ascertained in hundreds of cases. If a priority of age has any thing to do with them, the Zurich treatment is undoubtedly entitled to it, since it was introduced in the year 1783, whilst that in Breslau has been adopted only since 1797. Who is the real suggester of this treatment, is not now with certainty known; most probably it was Dr J. C. Hirzel, senior, the archiater and physician of the Zurich hospital at that time. The treatment is as follows: Deep scarifications of the wound, besmearing it with the pulvis lyttæ, application of a blister in the neighbourhood of the part, keeping up of suppuration, both in the blistered and wounded part, during six weeks, and the rubbing in of mercurial ointment till symptoms of approaching salivation come on. Internally, the adults take, for three weeks in succession every morning, and after that period, for some time longer, every other morning, fasting, a powder composed of five grains of powdered Belladonna; for which, when no trace of salivation shows itself, or if the patients come under treatment only a few days after the receipt of the wound, calomel should be substituted, or be given from the very commencement. The object of giving these moderately large doses of belladonna is, that the patient should from each dose have the symptoms of incipient intoxication, at least dryness of the throat, glimmering or haziness before the eyes, vertigo, and afterwards perspiration. Then a diaphoretic mixture of liquor ammoniæ acetatis and succinat., with copious potions of tea, is ordered for the patient, and a diaphoretic regimen recommended. He must remain in bed the four first weeks after the accident, and receive no animal food. " I lay, " (says Dr Rahn, one of the physicians to the Hospital), " a great deal. and indeed by far the greatest stress on the external treatment. But still I think that we could not safely rely on the external alone; but internal means must be given at the same time, and regularly continued, as we do not know how rapidly a part of the poison brought into the wound may be absorbed, and which can only be destroyed by the action of internal remedies. " If the clothes are also bitten through, they are always burnt.

According to this mode, there have been treated, in the 42 years since it has been in use (from 1783 to 1824 inclusive), 233 persons who have been bitten, viz. 182 from dogs, 50 from cats and foxes, and 1 by a *martin* (mustela). In the ten years from 1783 to 1792, there were treated 13 persons who were bitten by dogs supposed to be mad, and 18 by dogs of whose madness there was not the least doubt (it is certainly not stated by what means the madness of the dogs was proved), by a cat supposed to be mad 1, and by mad cats 5, making in the whole 47. From 1793 to 1802, by dogs suspected to be mad 14, by dogs absolutely mad 20 (all these in the years 1793, 1794, 1796, and 1797), by a cat suspected to be mad 1, and 6 by cats in a state of real madness, making altogether 31. From 1803, no particular mention was made in the books between dogs which were only suspected to be mad, and those which were really in a state of madness. From 1803 to 1812. bitten by different beasts, there were admitted 67; and from 1813 to 1824 (inclusive), there were admitted 78 bitten persons; and from these, 36 were bitten in the years 1820 and 1823 by mad dogs. From these 233 bitten persons, many were admitted on the second, third, fifth, sixth, seventh, tenth, and fourteenth day, and even five and eight weeks after the wound had been received. From the whole, 4 only died, 2 in 1784 and 1791, on the second day after their admission, and consequently scarcely submitted to the influence of the treatment. Of the other 2, one (a woman) was bitten on the inner and outer side of the mouth, and the other, a child, on the eyelid, so that the prescribed means could not be employed with the requisite and usual exactness.

So much for the treatment and the results with which it has been attended. We see, however, three important remedies recommended, in conjunction with each other, for the prevention of hydrophobia. The question is, whether it is necessary that these three medicines should be joined together; or can any one of them be employed singly with safety? Before I proceed to answer these questions, I beg to be allowed briefly to state some other modes of treatment very similar to that employed at Zurich, and then to compare their results, in order that I may found my answers upon them. The mode of treatment recommended by Wendt (*vid. Review*) in his work is as follows:—filling of the wound with *pulvis lyttæ*, and the keeping up of a copious discharge for six weeks; besides this, rubbing in of mercurial ointment, and the giving of calomel internally for six weeks, so that a severe salivation be kept up. Of 106 which were bitten by mad dogs between 1810 and 1825, two only died. There were 78 persons besides these treated; but the animals were proved not to be mad, and, consequently, the treatment was modified. In the *Beobachtungen und Abhandl. aus die Heilkunde, (Bd. I.)*, conducted by some Austrian physicians, the senior surgeon of the large hospital at Vienna, T. M. Axter, has published an account of the treatment pursued by him in cases of bites from animals during the last 27 years; and, during the whole period of that time, not a single old patient was ever brought back to the hospital with hydrophobia. During three or six days in succession, he gives internally a grain of *pulvis lyttæ*, with six grains of *canc. ocul.* and sugar; externally, over the wound, a blister was applied, and then it was dressed with the *pulvis lyttæ*, or washed with some stimulating lotion during the space of six weeks. I regret that I have only been able to see a short extract of Dr Axter's account in the *Salzburger Zeitung*, (1820, B. I. p. 23.), where more minute particulars are not to be found. Dr Hausbrand, district physician at Braimsberg, has given in Hufeland's Journal for 1821, (Part II. p. 21.), the following treatment: first active, bloodletting, (this is only to be pursued, however, when the patient applies soon after the accident), deep scarifications of the wound, promotion of the bleeding, washing of the wound with salt and water, and the application of an ointment composed of unguentum basilicum and powdered cantharides, or a large blister over the wound, and keeping up of the suppuration during the space of three months at least. Internally, the patients were to take, for three evenings, a powder composed of camphor and opium, drink elder tea, and keep up a copious perspiration. There are only eleven cases given by Dr H. of persons who were bitten by dogs absolutely mad, and treated in this manner by him; but they all recovered.

On looking at these four different prophylactic modes of treatment, we perceive that, as to the external treatment, it is essentially the same, but that the internal differs in each; but, still, they have been all attended with the same fortunate results. In Breslaw, the patients were kept in a state of salivation for six weeks; of more than a 100 patients, only two died; and the wounds of these persons were so situated, that the local means could not be applied with the same effect as in the other cases. In Zurich, the patients are never brought into a state of complete salivation; the belladonna is continued six weeks without intermission, and the patient is kept in a state of perspiration. Of more than 100 patients (I will allow that only half of the 233 were bitten by mad animals) only two died; and the wounds of these persons were in such a situation, that they could not be properly treated. Dr Hausbrand gives neither quicksilver, but certainly keeps up perspiration, during the three or four first days, by opium and camphor; and has, hitherto, not lost a case. Mr Axter gives to his patients nothing, with the exception of a grain of cantharides, during a few days after their reception into the house; and he has also been equally successful in his treatment. From these facts the following conclusions may be drawn. 1. Neither quicksilver, nor belladonna, nor diaphoretics, are of themselves able to prevent the occurrence of hydrophobia. 2. If one be not warranted in saying the same of cantharides, still, its internal use may be dispensed with. 3. The local treatment is the only sure and certain preventive against the recurrence of the complaint. If, after these four different modes have now been generally made known, we should still hear of persons dying after the bite of mad dogs, it will certainly be a matter of astonishment; and the fault will either be in the patient's not applying for relief in proper time, or in the physician for being ignorant of these valuable but simple modes, and trying other plans of treatment less sanctioned by the list of experience.

Case of Universal Anchylosis, by Giovanni Battista Grabner Maraschiu, (Omodei's Annali Universali di Medicina for October and November)—A countryman, 46 years old, of a strong constitution, and always enjoying good health, caught, in 1815. a clap, and, shortly after this, was seized with pleuritis; and then, after being cured of both his complaints, was attacked with pains in all his limbs of a rheumatic arthritic kind, (*un* "*affezione artritica d'indole reumatica*"); the pain first appeared in the ankle-joints, then in the knee, and, lastly, in the hip-joints. He tried the baths of Abano without any benefit, and continued till April 1817 just the same, when the disease proceeded to the joints of the upper extremities, the vertebræ, and, lastly, to the jaw. The motions of the joint gradually diminished, the patient suffering no pain; and, in February 1818, general anchylosis began to manifest itself, and could not be prevented by any means whatever. After keeping in the recumbent posture for six years, the anchylosis had become quite general, with the exception only of the ribs, which still maintained a little motion. The joints are neither swollen nor painful, the functions of the body are natural, the sensibility only of the skin of the extremities appears diminished, and the patient has an evacuation but once in fourteen days. The unfortunate patient is kept alive by fluids, which are introduced into the mouth for him by assistants. The proximate cause of this disease consists in a peculiar disposition of the joints to exudative inflammation; and a syphilitic dyscrasis, or rather the absorbed gonorrhœal poison (!) may be regarded as the predisposing cause.

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